

ARCHAEOLOGICAL AND PALEONTOLOGICAL PROGRAMMATIC ASSESSMENT OF THE SHEA/BAKER RANCH PLANNED COMMUNITY PROJECT, CITY OF LAKE FOREST, ORANGE COUNTY, CALIFORNIA

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MANAGEMENT SUMMARY

The study was conducted to identify any possible paleontological, prehistoric or historic resources that could be present in the Shea/Baker Ranch Planned Community project area located in the City of Lake Forest, Orange County, California. The proposed project consists of the development of a residential and mixed-use community. The site is currently partially graded and undeveloped except for a number of small modern structures related to a nursery.

Paleontology. The project area was completely submerged beneath the ocean until about two million years ago. Bedrock of the project area was emplaced 23-3 million years ago in the marine environment. Some terrestrial animals were washed into the ocean by rivers and fossilized along with marine animals. The bedrock is mostly the Oso Member of the Capistrano Formation and a small area of Monterey Formation. About 3 million years ago the ocean receded and deposition of terrestrial sediment through the action of streams and rivers began. The terrestrial sediments are Quaternary very old alluvium and young alluvial fan deposits.

Abundant and scientifically significant fossils are known from the Oso Member of the Capistrano Formation within the current project area and directly adjacent to it resulting from four previous monitoring projects (261 fossils total). Baleen whales and sabertoothed salmon have been the most frequent finds with lesser quantities of other types of whales including dolphins, a variety of pinnipeds, sea cows, sharks including giant white, great white and bonito, a variety of fishes, sea turtle, giant toothed pelican, and some land animals including fossil elephant, horse, camel and tortoise. Any excavations in the Oso have potential to create adverse impacts on significant vertebrate paleontological resources. In addition, deep excavations into the Pleistocene terrestrial sediments have potential to impact widely spaced and unpredictable occurrences of terrestrial fossils.

Archaeology. Early settlement in the project area 12-8 thousand years ago was by people exhibiting the Greven Knoll Pattern of the Encinitas Cultural Tradition. Sites tend to be in valleys such as the project area. The Greven Knoll toolkit is dominated by manos and metates throughout its extent. In Phase I other typical characteristics were pinto dart points for atlatls or spears, charmstones, cogged stones, absence of shell artifacts and flexed position burials. In Phase II, Elko dart points for atlatls or spears and core tools are observed.

About 3,500 years ago, the Angeles Pattern of the Del Rey Cultural Tradition became apparent in the project area and probably reflects influx of early Gabrielino Tongva peoples. An increased emphasis on hunting, fishing and ceremonial items is reflected in the materials recovered. In Early Angeles sites (former Intermediate Period) small steatite objects such as pipes and effigies are found, shell beads and ornaments increase, fishing technologies increase including bone harpoons/fishhooks and shell fishhooks, donut stones appear, and hafted micro blades for cutting/graving wood or stone appear. Later Angeles sites (former Late Period) have small projectile points, steatite shaft straighteners and increased use of asphaltum - all reflecting adoption of bow and arrow technology, obsidian sources changed from mostly Coso to Obsidian Butte and shell beads from Gulf of California species began to appear. More and larger steatite artifacts, including larger vessels, more elaborate effigies, and comals appear.

A search for archaeological and historic records was completed at the South Central Coastal Information Center at California State University, Fullerton, Orange County, California. The record search was performed for the project boundaries plus a one mile radius for prehistoric and historic resources. Four recorded archaeological sites are known in the project area and 75 additional cultural resources within a mile of the project area. Portions of the project area have been previously surveyed 14 times and 55

studies have occurred within a one-mile radius. The Native American Heritage Commission indicated that there are no known sacred lands in the vicinity but that the area is very sensitive. The Commission recommended 15 Native American tribes or individuals be contacted for further information. Letters requesting information on any known heritage sites, and containing maps and project information, were sent to the 15 Native American contacts on August 8, 2011. Mr. David Belardes and Ms. Joyce Perry of the Acjachemen Nation both contacted Cogstone and stated that the project area is very sensitive and that sites in the vicinity of the project area have been found not only on the surface but also 30 to 40 feet below surface. They strongly recommend a monitor be present for all ground disturbances. No other responses were received.

Three of four previously known archaeological sites have been either destroyed by past conditions or determined not to meet significance criteria under CEQA. One site (P-30-758) is within the current Alton Parkway Extension and covered by the EIR for that project. Native Americans expressed concerns that deeply buried unknown sites may be present. This would be restricted to the alluvial sediments on the northwestern portion of the project as no sites will be present in the underlying ancient bedrock.

This project area is covered by mitigation measures approved as part of the City of Lake Forest Opportunities Study Program EIR. These measures are adequate but should be amended to include Native American involvement with any prehistoric archaeological sites newly discovered and to insure that the study of fossils recovered includes a research design that will place these resources into a regional context, not just produce another list.

INTRODUCTION

PURPOSE OF STUDY

The purpose of this records search was to identify any possible paleontological, prehistoric or historic resources that could be present in the Shea/Baker Ranch Planned Community project area located in the City of Lake Forest, Orange County, California (Figure 1). The study was requested by the City of Lake Forest to meet their responsibilities as the lead agency under California Environmental Quality Act (CEQA). The study will be used to evaluate potential project impacts.

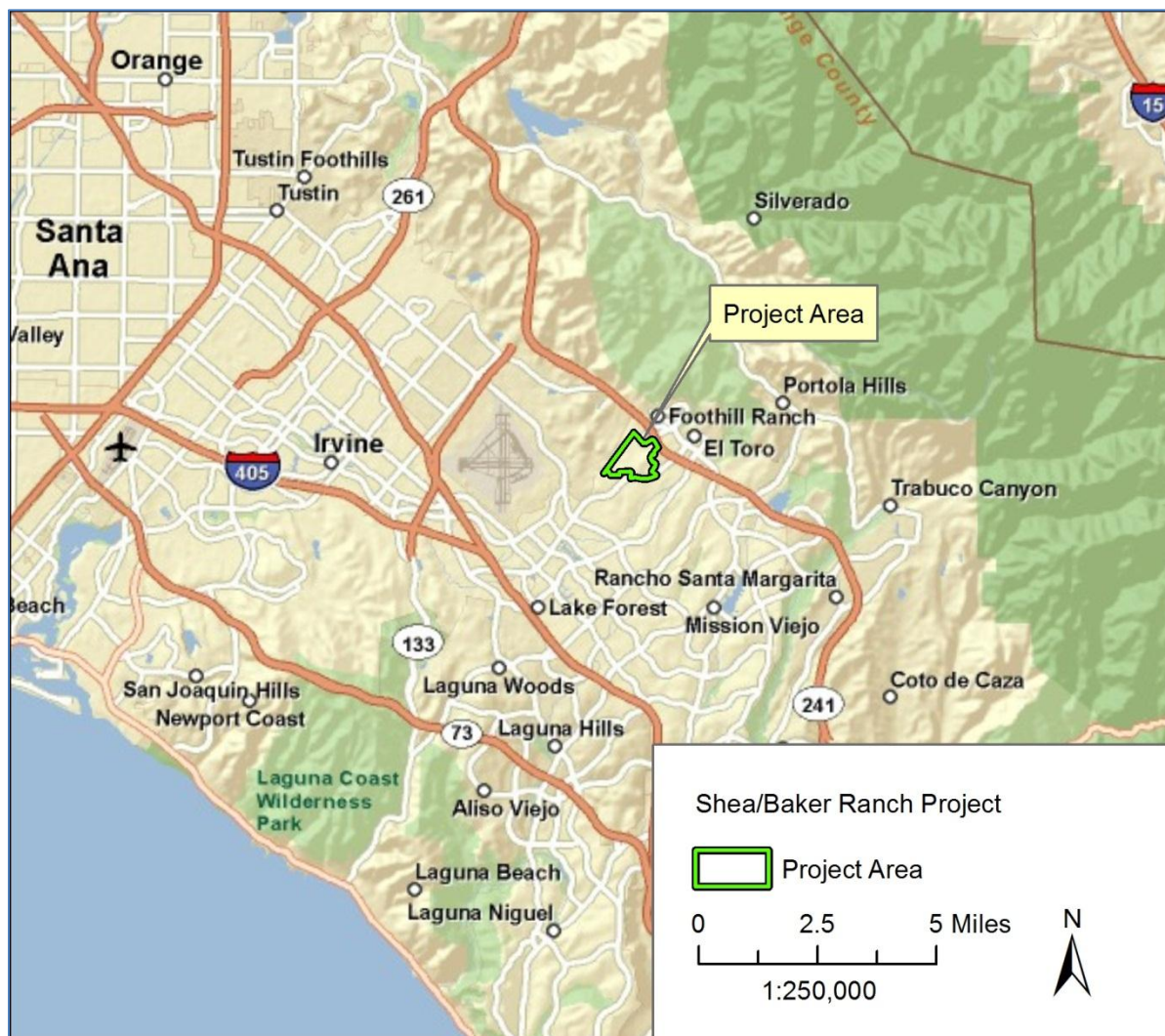


Figure 1. Project vicinity

PROJECT DESCRIPTION

The proposed project consists of the development of a residential and mixed-use community. located in the northwestern portion of the City of Lake Forest. The project is bounded by Borrego Canyon Wash on the northwest, Bake Parkway and an existing business park development on the south, the Foothill Transportation Corridor to the northeast and an Irvine Ranch Water District reservoir site to the east (Figure 2, Figure 3). Specifically, the proposed project is located on the El Toro 7.5 minute quadrangle in Sections 1, 2, 11 and 12, Township 6 South, Range 8 West, San Bernardino Base and Meridian. The proposed development consists of a wide range of housing types, mixed-use commercial areas and open space.

Shea/Baker Ranch has a long history of project approvals. The original Area Plan for the site was approved by the County of Orange in April 1988 and then reapproved by the City of Lake Forest in January 2000. That project approval incorporated a 691-acre site known as Baker Ranch, only a portion of which is a part of the project site. In January 2000 the City of Lake Forest approved a revised version of the Baker Ranch Area Plan that amended the plan for the 386.6-acre Shea/Baker Ranch property. The Shea/Baker Ranch Area Plan includes Area 1 (which now also includes former Planning Area 2) and Planning Area 7 of the Baker Ranch Area Plan. The City is currently constructing a segment of Alton Parkway that extends through the Shea/Baker Ranch project site pursuant to the terms of the Shea/Baker Ranch Development Agreement and approvals granted by the County of Orange in 2010. The impacts of the Alton Parkway construction project were analyzed in the Alton Parkway Extension Project EIR 585, prepared and certified by the County of Orange in September 2007 (Alton Parkway EIR).

The project site is partially graded and undeveloped except for a number of small structures related to a nursery that occupies the northwestern portion of the overall property. There is also an approximately 13-acre paved area used primarily for storage of recreational vehicles, north of Bake Parkway and west of Baffin Bay Drive (Baker Ranch RV Storage, 25690 Baffin Bay Drive, Lake Forest, CA 92630). Approximately 50 percent of the site has been graded, primarily the eastern and southern portions, including the vehicle storage facility. The remainder of the project site is primarily agricultural with remnants of avocado orchards and an ongoing wholesale/retail nursery operation. There are a number of buildings associated with the nursery operation, including a sales office, shade structures, portable agricultural chemical storage buildings, a cluster of maintenance buildings, and a vehicle storage area near the southerly end of the facility. There are also two occupied residences, one located on a small hill near the central portion of the nursery or the northwestern portion of the overall site, and a second located on an elevated area northeast of the nursery and somewhat more central to the overall site. Each residence has several small outbuildings and storage areas. Work is ongoing for the extension of Alton Parkway between Towne Centre Drive on the northeast, through and along the entire length of the site, and connecting to Irvine Boulevard west of the site.

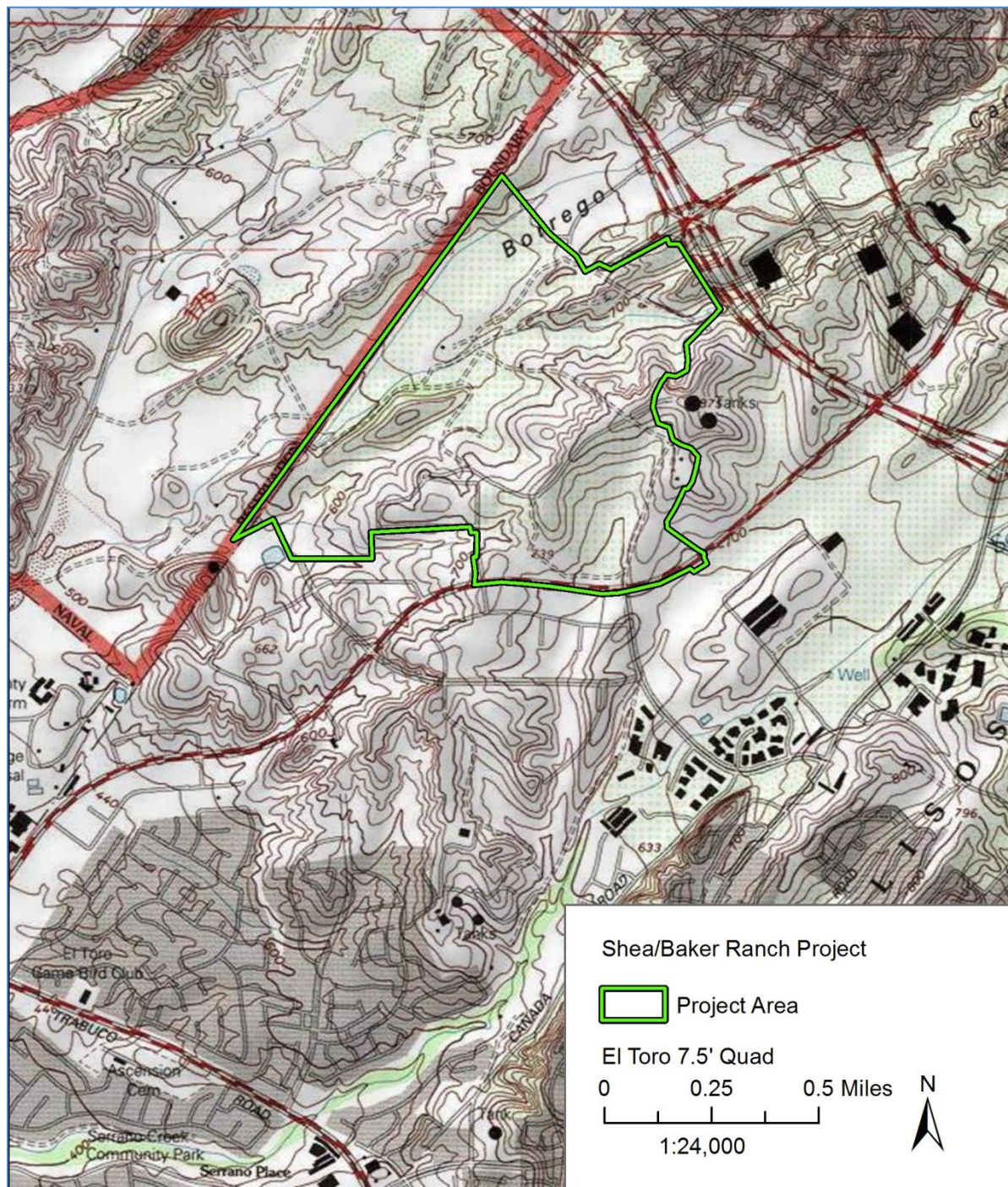


Figure 2. Project area



Figure 3. Project aerial

The project consists of an Area Plan and a Tentative Tract Map. The Shea/Baker Ranch is envisioned to include a wide range of housing types, including mixed-uses among a diverse community-wide open space and recreational system. The proposed Area Plan for the Shea/Baker Ranch community provides for the following land uses with a total of 2,379 residential units:

Residential

- Up to 1,638 for-sale homes, on approximately 308 acres, ranging from low density (2–7 units per net acre) to medium density (up to 25 units per net acre)
- A broad variety of home styles, including single-family detached, motor courts, cluster homes, green courts, flats, townhomes, and condominiums

Mixed Use

- A maximum of approximately 50 acres designated for mixed-use development
- The mixed-use development contemplates commercial areas developed together with multifamily residential units ranging from low-medium to high densities
- A maximum of 25,000 square feet of commercial development and up to 741 residential units, including affordable housing units

Open Space

The community provides over 100 acres of parks and open spaces, as follows:

- Approximately 19.4 acres of community & neighborhood parks, in addition to trails/paseos
- The 8.40-acre Central Linear Park
- The 11.9-acre Borrego Linear Park, including a trail system that covers 4.82 acres
- Approximately 44.5 acres contained within slopes, paseos, detention basin, and other open spaces, and approximately 15 acres within parkways and medians
- The 14.83-acre Borrego Canyon Wash

Implementation of the conceptual grading plan requires approximately 4,700,000 cubic yards of cut and fill. The grading will be accomplished in three phases, generally corresponding to the development phases outlined in Chapter 11 of the Area Plan. To balance the site's earthwork, soil must be moved across Alton Parkway. Different methods may be used to accomplish this, including temporary closures on Alton Parkway or constructing a temporary bridge or bridges across Alton for the use of earthmoving equipment. Vertical cut depths will range from 90 to 40 feet.

Development of Shea/Baker Ranch is anticipated to occur in three phases. Each of these phases includes adequate access, infrastructure, and recreation facilities to be self-supporting. Because forces beyond the control of the landowner influence the property's development, the timing and sequence of phasing may be adjusted pursuant to the Development Agreement. Project phasing is planned to commence along the southern and eastern sides of the project, transition to the center, and finish within the project's center and northern side. The Shea/Baker Ranch Development Agreement established the timing for construction of certain improvements and satisfaction of certain obligations on the part of the developer. The timing for these occurrences is tied to the number of building permits issued.

PROJECT PERSONNEL

Cogstone Resource Management Inc. (Cogstone) conducted the cultural resources studies. Sherri Gust served as the Principal Investigator for the project, supervised all work, wrote all of the paleontology sections, the prehistoric setting, the discussion of sites within the project area and the conclusions and recommendations. Gust is a Qualified Principal Paleontologist and Registered Professional Archaeologist. She has a M.S. in Anatomy (Evolutionary Morphology) from the University of Southern California, a B.S. in Anthropology from the University of California at Davis and over 30 years of experience in California.

Amy Glover performed the archaeological records search and wrote that section plus the historic setting. Glover has a B.S. in Biological Anthropology from the University of California at Riverside and six years of experience in Southern California archaeology. Molly Valasik prepared the maps and conducted the consultation. Valasik has a M.A. in Anthropology from Kent State University in Ohio and experience in Southern California archaeology. Qualifications of key project personnel are provided (Appendix A).

BACKGROUND

PALEONTOLOGICAL SETTING

The project area was completely submerged beneath the ocean until about two million years ago. Bedrock of the project area was emplaced 23-3 million years ago in the marine environment (Figure 4). Some terrestrial animals were washed into the ocean by rivers and fossilized along with marine animals. About 3 million years ago the ocean receded and deposition of terrestrial sediment through the action of streams and rivers began.

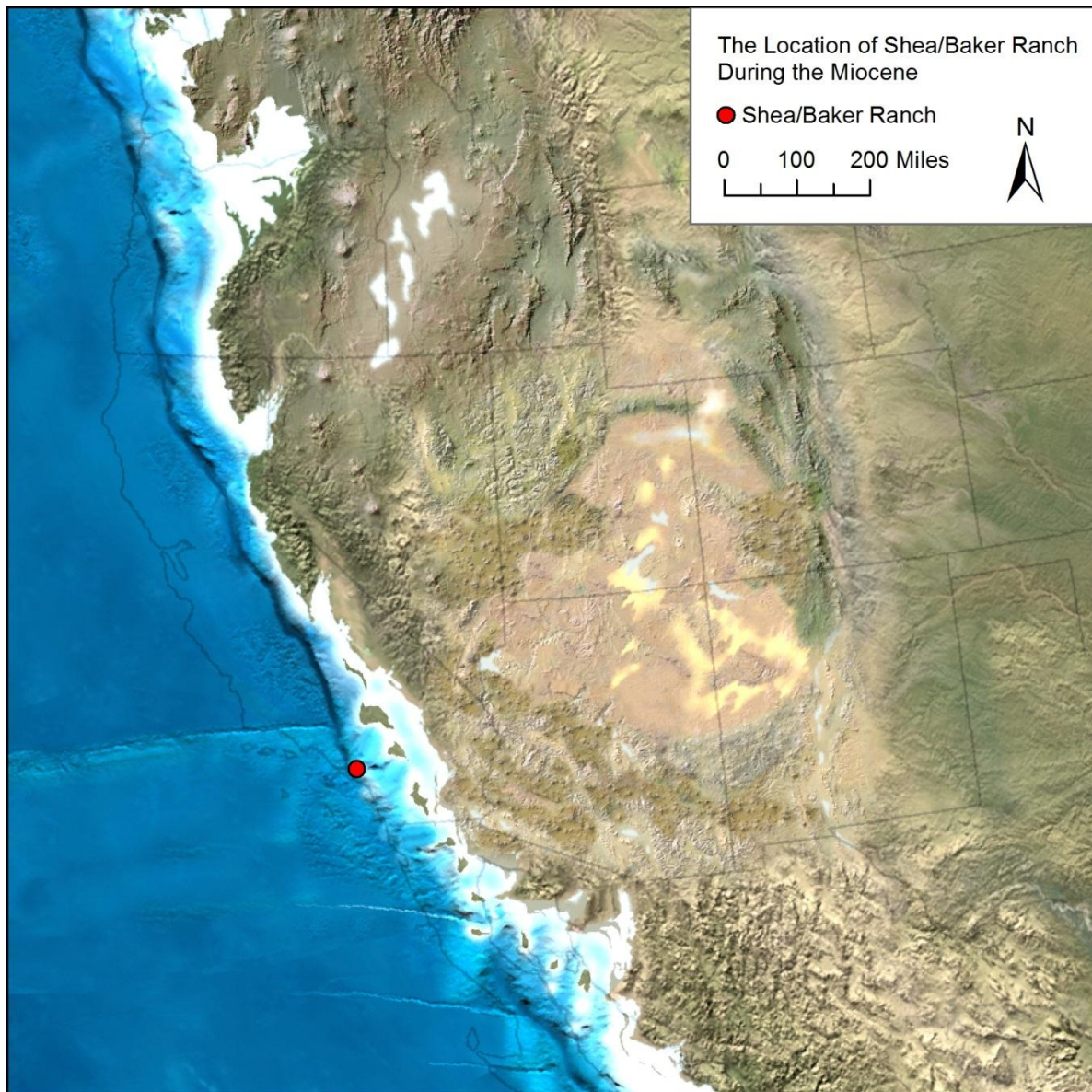


Figure 4. Miocene Environment

GEOLOGICAL SETTING

The project area is mapped as sediments of a Miocene marine rock unit, a late Miocene to Pliocene rock unit and two Pleistocene to recent terrestrial deposits (Morton and Miller 2006; Figure 5). The project area is situated on low foothills of the Santa Ana Mountains.

MONTEREY FORMATION

This rock unit was deposited below the ocean from 23-5 million years ago in the Miocene Epoch. It is composed predominantly siltstone and sandstone. These are generally observed as interbedded white to pale brown, thinly laminated siltstone and tan, fine- to medium-grained feldspathic sandstone (Morton and Miller 2006).

CAPISTRANO FORMATION, OSO SAND MEMBER

The Oso Member of the Capistrano Formation was deposited 9-5 million years ago in the late Miocene and early Pliocene Epochs. It consists of white to light gray, massive, medium- to coarse-grained, friable sandstone and can contain scattered matrix-supported pebbles and cobbles as well as concretions (Morton and Miller 2006). The late Miocene sea that occupied the region was named the Capistrano Embayment (Reed and Hollister 1936). This embayment was a broad flat-bottomed structural trough that extended some 35 km inland from the present shoreline. How far offshore it extended is undetermined because of its merging with the deep offshore basins. Water depths in the Capistrano Embayment reached nearly 2000 meters at its deepest point (Ingle 1979).

QUATERNARY VERY OLD ALLUVIUM

This deposit consists of channel sediments laid down by run off from the Santa Ana Mountains along canyon floors approximately 2.5 million to 1 million years ago in the middle to early Pleistocene Epoch. The alluvial deposits are dominated by sand, but contain scattered gravel and pebble layers, silt, and clay-bearing alluvium. Typically well consolidated to moderately to well-indurated, reddish-brown, highly pigmented in upper parts (Morton and Miller 2006).

QUATERNARY YOUNG FAN DEPOSITS

This deposit consists of channel sediments laid down by run off from the Santa Ana Mountains approximately 1 million to 11 thousand years ago in the middle to late Pleistocene Epoch and 11 thousand years ago to the present in the Holocene Epoch. The deposits consist of unconsolidated to moderately consolidated silt, sand, pebbly cobbly sand, and bouldery alluvial-fan deposits having slightly to moderately dissected surfaces. Forms large and small fans and close to mountains, unit typically contains large proportion of cobbles and boulders (Morton and Miller 2006).

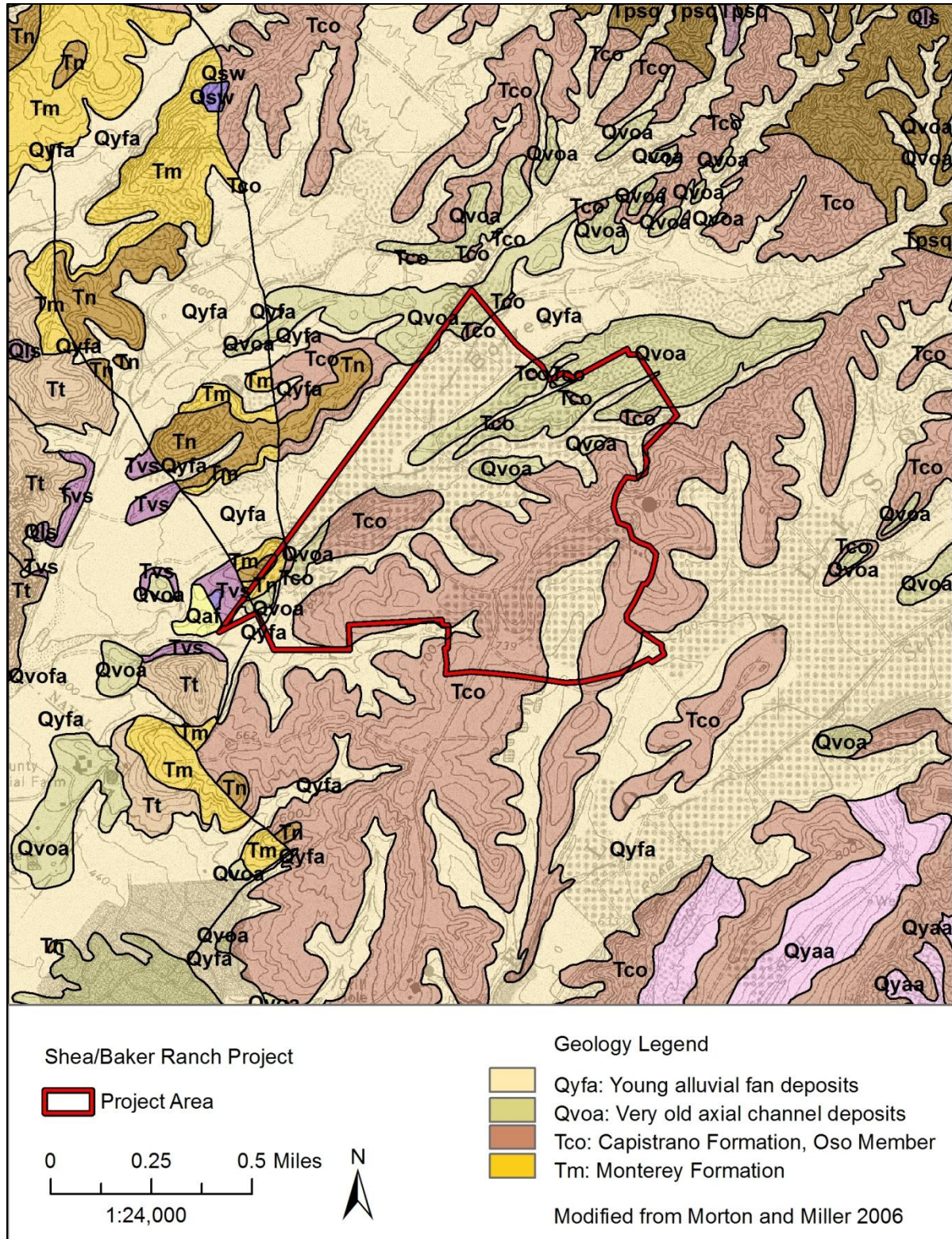


Figure 5. Geology of Project Area

PREHISTORIC SETTING

Approaches to prehistoric frameworks have changed over the years from being based on material attributes to radiocarbon chronologies to association with cultural traditions. Archaeologists defined a material complex consisting of an abundance of milling stones (for grinding food items) with few projectile points or vertebrate faunal remains dating from about 7-3 thousand years before the present as the “Millingstone Horizon” (Wallace 1955). Later, the “Millingstone Horizon” was redefined as a cultural tradition named the Encinitas Tradition (Warren 1968) with various regional expressions including Topanga and La Jolla. Use by archaeologists varied as some adopted a generalized Encinitas Tradition without regional variations, some continued to use “Millingstone Horizon” and some used Middle Holocene (the time period) to indicate this observed pattern (Sutton and Gardner 2010:1-2).

Recently the fact that generalized terminology is suppressing the identification of cultural, spatial and temporal variation and the movement of peoples throughout space and time was noted. These factors are critical to understanding adaptation and change (Sutton and Gardner 2010:1-2).

The Encinitas Tradition characteristics are abundant metates and manos, crudely made core and flake tools, bone tools, shell ornaments, very few projectile points with subsistence focusing on collecting (plants, shellfish, etc.). Faunal remains vary by location but include shellfish, land animals, marine mammals and fish. [Sutton and Gardner 2010:7]

The Encinitas Tradition has been redefined to consist of four patterns (Sutton and Gardner 2010: 8-25). These are (1) Topanga in coastal Los Angeles and Orange counties, (2) La Jolla in coastal San Diego County, (3) Greven Knoll in inland San Bernardino, Riverside, Orange and Los Angeles counties, and (4) Pauma in inland San Diego County.

About 3,500 years before present the Encinitas Tradition was replaced by a new archaeological entity, the Del Rey Tradition, in the greater Los Angeles Basin. This new entity has been generally assigned to the Intermediate and Late time periods. The changes that initiated the beginning of the Intermediate Period included new settlement patterns, economic foci and artifact types that coincided with the arrival of a new, biologically distinctive population. The Intermediate and Late periods have not been well-defined. However, many have proposed that the beginning of the Intermediate marked the arrival of Takic groups (from the Mojave Desert, southern Sierra Nevada and San Joaquin Valley) and that the Late Period reflected Shoshonean groups (from the Great Basin). Related cultural and biological changes occurred on the southern Channel Islands about 300 years later. [Sutton 2010]

The Del Rey Tradition replaces the Intermediate and Late designations for both the southern California mainland and the southern Channel Islands. Within the Del Rey Tradition are two

regional patterns named Angeles and Island. The Del Rey Tradition represents the arrival, divergence, and development of the Gabrielino in southern California. [Sutton 2010]

PROJECT AREA CULTURES

The latest cultural revisions for the project area define traits for time phases of the Greven Knoll pattern of the Encinitas Tradition applicable to inland Orange County (Sutton and Gardner 2010; Table 2). This pattern is replaced in the project area by the Angeles pattern of the Del Rey Tradition later in time (Sutton 2010; Table 1). Each pattern has subdivisions as identified by specific changes in cultural assemblages through time. Phases are identified by their archaeological signatures in components within sites.

Greven Knoll sites tend to be in valleys such as the project area. These inland peoples did not switch from manos/metates to pestles/mortars like coastal peoples (c. 5,000 years before present); this may reflect their closer relationship with desert groups who did not exploit acorns. The Greven Knoll toolkit is dominated by manos and metates throughout its extent. In Phase I other typical characteristics were pinto dart points for atlatls or spears, charmstones, cogged stones, absence of shell artifacts and flexed position burials (Table 1). In Phase II, Elko dart points for atlatls or spears and core tools are observed along with increased indications of gathering (Table 1). In addition, the Greven Knoll populations are biologically Yuman (based on skeletal remains) while the later Angeles populations are biologically Shoshonean (Sutton and Gardner 2010, Sutton 2010).

The Angeles pattern generally is restricted to the mainland and appears to have been less technologically conservative and more ecologically diverse, with a largely terrestrial focus and greater emphases on hunting and nearshore fishing. In Angeles Phase I Elko points for atlatls or darts appear, small steatite objects such as pipes and effigies from Catalina are found, shell beads and ornaments increase, fishing technologies increase including bone harpoons/fishhooks and shell fishhooks, donut stones appear, and hafted micro blades for cutting/graving wood or stone appear. In addition, several Encinitas (Topanga) traits, such as discoidals, cogged stones, plummet-like charmstones, and cairn burials (see Sutton and Gardner 2010: Table 1) virtually disappear from the record. Mortuary practices changed to consist of primarily flexed primary inhumations, with extended inhumations becoming less common. Settlement patterns made a shift from general use sites being common to habitation areas separate from functional work areas. Subsistence shifted from mostly collecting to increased hunting and fishing. [Sutton 2010]

Angeles Phase II is identified primarily by the appearance of a new funerary complex, with other characteristics similar to Angeles I. The complex features killed (broken) artifacts including manos, metates, bowls, mortars, pestles, points, and others plus highly fragmented cremated human bones and a variety of faunal remains. In addition to the cremains, the other material also often burned. None of the burning was performed in the burial feature. [Sutton 2010]

Table 1. Culture Change Chronology

Pattern	Phase	Dates (BP)	Material Traits	Other Traits
Encinitas	Greven Knoll I	8,500 to 4,000	Abundant manos and metates, Pinto dart points for atlatls or spears, charmstones, cogged stones and discoidals rare, no mortars or pestles, general absence of shell artifacts	No shellfish, hunting important, flexed inhumations, cremations rare
	Greven Knoll II	4,000 to 3,000	Abundant manos and metates, Elko dart points for atlatls or spears, core tools, late discoidals, few mortars and pestles, general absence of shell artifacts	No shellfish, hunting and gathering important, flexed inhumations, cremations rare
Angeles	Angeles I	3,500 to 2,600	Appearance of Elko dart points and an increase in the overall number of projectile points from Encinitas components; beginning of large-scale trade in small steatite artifacts (effigies, pipes, and beads) and <i>Olivella</i> shell beads from the southern Channel Islands; appearance of single-piece shell fishhooks and bone harpoon points; Coso obsidian becomes important; appearance of donut stones	appearance of a new biological population (Takic proto-Gab/Supan language), apparent population increase; fewer and larger sites along the coast; collector strategy; less overall dependence on shellfish but fishing and terrestrial hunting more important; appearance of flexed and extended inhumations without cairns, cremations uncommon
	Angeles II	2,600 to 1,600	Continuation of basic Angeles I material culture with the addition of mortuary features containing broken tools and fragmented cremated human bone; fishhooks become more common	continuation of basic Angeles I settlement and subsistence systems; appearance of a new funerary complex
	Angeles III	1,600 to 1,250	Appearance of bow and arrow technology (e.g., Marymount or Rose Spring points); changes in <i>Olivella</i> beads; asphaltum becomes important; reduction in obsidian use; Obsidian Butte obsidian largely replaces Coso	larger seasonal villages; flexed primary inhumations but no extended inhumations and an increase in cremations; appearance of obsidian grave goods; possible expansion into eastern Santa Monica Mountains, replacing Topanga III groups
	Angeles IV	1,250 to 800	Cottonwood points appear; some imported pottery appears; birdstone effigies at the beginning of the phase and “spike” effigies dropped by the end of the phase; possible appearance of ceramic pipes	change in settlement pattern to fewer but larger permanent villages; flexed primary inhumations continue, cremations uncommon; expansion into the San Gabriel Mountains, displacing Greven Knoll III groups

Pattern	Phase	Dates (BP)	Material Traits	Other Traits
	Angeles V	800 to 450	Trade of steatite artifacts from the southern Channel Islands becomes more intensive and extensive, with the addition or increase in more and larger artifacts, such as vessels and comals; larger and more elaborate effigies	strengthening of ties, especially trade, with southern Channel Islands; expansion into the northern Santa Ana Mountains and San Joaquin Hills; development of mainland dialects of Gabrielino
	Angeles VI	450 to 150	Addition of Euroamerican material culture (e.g., glass beads and metal tools), locally made pottery, metal needle-drilled <i>Olivella</i> beads	change of settlement pattern, movement close to missions and ranches; use of domesticated species obtained from Euroamericans; flexed primary inhumations continue, cremations uncommon to the north (nearer the Chumash) but somewhat more common to the south (nearer the Luiseño); apparent adoption of Chingichngish religion

The Angeles III Phase is the beginning of what has been known as the Late Period and is marked by several changes from Angeles I and II. These include the appearance of small projectile points, steatite shaft straighteners and increased use of asphaltum all reflecting adoption of bow and arrow technology, obsidian sources changed from mostly Coso to Obsidian Butte and shell beads from Gulf of California species began to appear. Subsistence practices continued as before and the geographic extent of the Angeles Pattern increased. [Sutton 2010]

Angeles Phase IV is marked by new material items including Cottonwood points for arrows, Olivella cupped beads and Mytilus shell disks, birdstones (zoomorphic effigies with magico-religious properties) and trade items from the Southwest including pottery. It appears that populations increased and that there was a change in the settlement pattern to fewer but larger permanent villages. Presence and utility of steatite vessels may have impeded the diffusion of pottery into the Los Angeles Basin. The settlement pattern altered to one of fewer and larger permanent villages. Smaller special-purpose sites continued to be used. [Sutton 2010]

Angeles V components contain more and larger steatite artifacts, including larger vessels, more elaborate effigies, and comals. Settlement locations shifted from woodland to open grasslands. The exploitation of marine resources seems to have declined and use of small seeds increased. Many Gabrielino inhumations contained grave goods while cremations did not. [Sutton 2010]

The Angeles VI phase reflects the ethnographic mainland Gabrielino of the post-contact (i.e., post-A.D. 1542) period. One of the first changes in Gabrielino culture after contact was undoubtedly population loss due to disease, coupled with resulting social and political disruption.

Angeles VI material culture is essentially Angeles V augmented by a number of Euroamerican tools and materials, including glass beads and metal tools such as knives and needles (used in bead manufacture). The frequency of Euroamerican material culture increased through time until it constituted the vast majority of materials used. Locally produced brownware pottery appears along with metal needle-drilled *Olivella* disk beads. [Sutton 2010]

The ethnographic mainland Gabrielino subsistence system was based primarily on terrestrial hunting and gathering, although nearshore fish and shellfish played important roles. Sea mammals, especially whales (likely from beached carcasses), were prized. In addition, a number of European plant and animal domesticates were obtained and exploited. Ethnographically, the mainland Gabrielino practiced interment and some cremation. [Sutton 2010]

ETHNOGRAPHY

Early Native American peoples of the project area are poorly understood. They were replaced about 3,500 years ago by Native Americans now known as the Gabrielino (Tongva). Later in time, other Native Americans, now known as the Juaneño (Acjachemen) moved into southern Orange County and are likely to have also used the project area at some points in time. Material culture was very similar between these two groups but the Juaneño were known to produce Tizon brownware ceramics which might differentiate sites.

Gabrielino Tongva

The Gabrielino speak a language that is part of the Takic language family. Their territory encompassed a vast area stretching from Topanga Canyon in the northwest, to the base of Mount Wilson in the north, to San Bernardino in the east, Aliso Creek in the southeast and the Southern Channel Islands, in all an area of more than 2,500 square miles (Bean and Smith 1978, McCawley 1996) (Figure 6). At European contact, the tribe consisted of more than 5,000 people living in various settlements throughout the area. Some of the villages could be quite large, housing up to 150 people.

The Gabrielino are considered to have been one of the wealthiest tribes and to have greatly influenced tribes they traded with (Kroeber 1976:621). Houses were domed, circular structures thatched with tule or similar materials (Bean and Smith 1978:542). The best known artifacts were made of steatite and were highly prized. Many common everyday items were decorated with inlaid shell or carvings reflecting an elaborately developed artisanship (Bean and Smith 1978:542).



Figure 6. Native American Traditional Tribal Territories

The main food zones utilized were marine, woodland and grassland (Bean and Smith 1978). Plant foods were, by far, the greatest part of the traditional diet at contact. Acorns were the most important single food source. Villages were located near water sources necessary for the leaching of acorns, which was a daily occurrence. Grass seeds were the next most abundant plant food used along with chia. Seeds were parched, ground, and cooked as mush in various combinations according to taste and availability. Greens and fruits were eaten raw or cooked or sometimes dried for storage. Bulbs, roots, and tubers were dug in the spring and summer and usually eaten fresh. Mushrooms and tree fungus were prized as delicacies. Various teas were made from flowers, fruits, stems, and roots for medicinal cures as well as beverages. [Bean and Smith 1978:538-540]

The principal game animals were deer, rabbit, jackrabbit, woodrat, mice, ground squirrels, antelope, quail, dove, ducks, and other birds. Most predators were avoided as food, as were tree squirrels and most reptiles. Trout and other fish were caught in the streams, while salmon were

available when they ran in the larger creeks. Marine foods were extensively utilized. Sea mammals, fish, and crustaceans were hunted and gathered from both the shoreline and the open ocean, using reed and dugout canoes. Shellfish were the most common resource, including abalone, turban, mussels, clams, scallops, bubble shells, and others. [Bean and Smith 1978:538-540]

Juaneño Acjachemen

About 1,300 years ago the Acjachemen (Juaneño) who were hunters and gatherers of the San Luis Rey Cultural Pattern moved into southern Orange County. The Acjachemen speak a language that is part of the Takic language family. Their traditional tribal territory was situated partly in northern San Diego County and partly in southern Orange County (Figure 5). The boundaries were Las Pulgas Creek (south), Aliso Creek (north), the Pacific Ocean (west) and the Santa Ana Mountains (east). Villages were mostly along San Juan Creek, Trabuco Creek and San Mateo Creek (O'Neil and Evans 1980).

In prehistory, the Acjachemen had a patrilineal society and lived in groups with other relatives. These groups had established claims to places including the sites of their villages and resource areas. Marriages were usually arranged from outside villages establishing a social network of related peoples in the region. There was a well-developed political system including a hereditary chief. Religion was an important aspect of their society. Religious ceremonies included rites of passage at puberty and mourning rituals (Kroeber 1925:636-647).

Houses were typically conical in shape and thatched with locally available plant materials. Work areas were often shaded by rectangular brush-covered roofs (ramada). Each village had a ceremonial structure in the center enclosed by a circular fence where all religious activities were performed (Bean and Shippek 1978:553).

Women are known to have been the primary gatherers of plants foods, but also gathered shellfish and trapped small game animals. Men hunted large game, most small game, fished, and assisted with plant food gathering, especially of acorns. Adults were actively involved in making tools including nets, arrows, bows, traps, food preparation items, pottery and ornaments. Tribal elders had important political and religious responsibilities and were involved in education of younger members (Bean and Shippek 1978:555).

HISTORIC SETTING

Juan Cabrillo was the first European to sail along the coast of California in 1542 and was followed in 1602 by Sebastian Vizcaino (Bean and Rawls 1993). Between 1769 and 1822 the Spanish had colonized California and established missions, presidios and pueblos (Bean and Rawls 1993).

In 1821 Mexico won its independence from Spain and worked to lessen the wealth and power held by the missions. The Secularization Act was passed in 1833, giving the vast mission lands to the Mexican governor and downgrading the missions' status to that of parish churches. The governor then redistributed the former mission lands, in the form of grants, to private owners. Ranchos in California numbered over 500 by 1846, all but approximately 30 of which resulted from land grants (Bean and Rawls 1993; Robinson 1948).

California was granted statehood in 1850 and although the United States promised to honor the land grants, the process of defining rancho boundaries and proving legal ownership became time consuming and expensive. Legal debts led to bankruptcies and the rise in prices of beef, hide and tallow. This combined with flooding and drought, was detrimental to the cattle industry. Ranchos were divided up and sold inexpensively (Hampson 1993).

The project area lies within the boundaries of the former Rancho Cañada de los Alisos, a land grant issued to José Serrano on May 3, 1842. A second grant issued on May 27, 1846 by Governor Pio Pico brought the total acreage to 10,668 acres. The rancho was bounded by El Camino Real to the southwest, Ranchos San Joaquin and Lomas de Santiago to the west and Rancho Trabuco to the east. The rancho was developed for cattle ranching and growing crops (Hoover and Kyle 2002). Around 1858, Serrano built an adobe which is still extant and preserved within a historical park. By the 1880s, drought forced the family to break the rancho up into 10 lots; the adobe and five of the lots (equating to 82% of the original rancho) were sold to Dwight Whiting (Ruxton and Egan 1885). Whiting's son George added to the Serrano adobe in 1932 (Figure 7; Hoover and Kyle 2002). Dwight Whiting planted 1,000 acres of his ranch with eucalyptus trees in 1905. Originally used as ornamental trees in San Francisco after being introduced from Australia in the 1850s, eucalyptus trees were popular for their financial potential; they were used for windbreaks, fuel, shade, posts, railroad ties, support timbers and pier pilings (ICF International 2010:3.4-7). The trees that are still standing today are what the City derives part of its name from.

Development in the present-day City of Lake Forest didn't begin until the early 1970s and consisted of residential planned communities. The City incorporated in 1991 and has since expanded to include the communities of Foothill Ranch and Portola Hills, both of which were also developed as planned communities (ICF International 2010:3.4-8). The two "lakes" from which the City takes the first part of its name are manmade and lined with condominiums and custom homes.

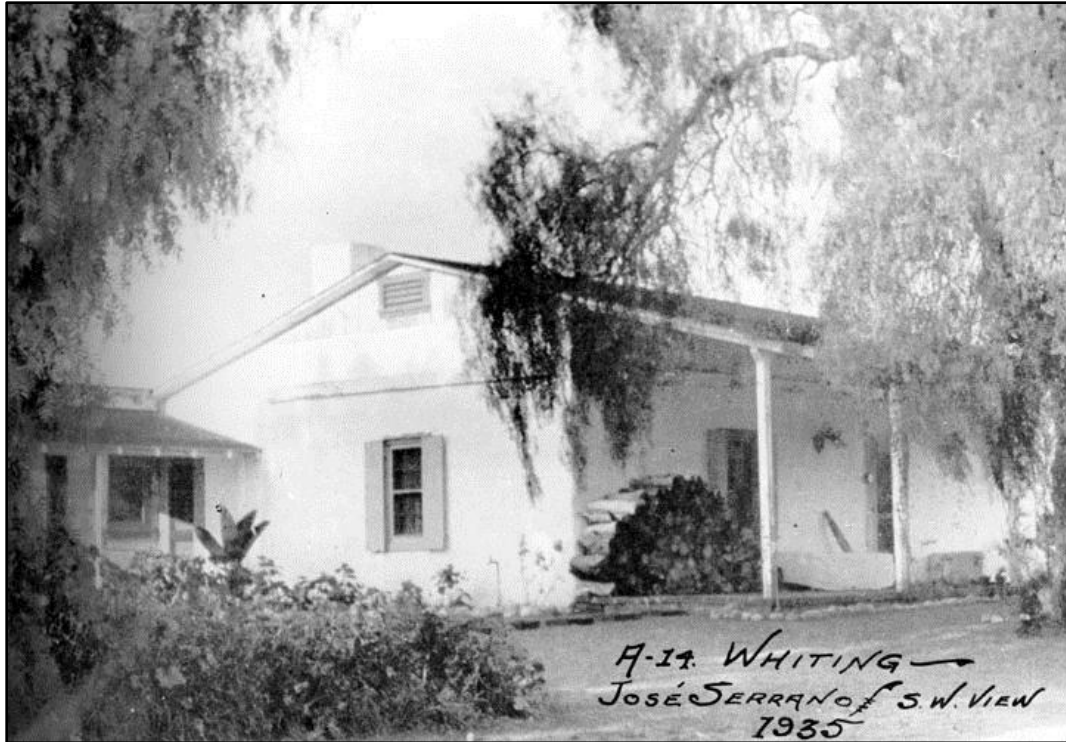


Figure 7. Serrano adobe in 1935 (University of California 2011)

PROJECT AREA HISTORY

A historical topographic map from 1902 and revised in 1946 does not show any structures within or in proximity to the project area (Figure 8). According to the 1946 aerial photograph of the area, the earliest available, the project area is completely undeveloped, save for a series of dirt roads (Figure 9). The 1972 aerial photograph demonstrates that the project area has been partially graded and is largely used for a nursery (Figure 10). At least two buildings are visible within the project area; the same buildings are visible on the most recent aerial photograph (refer to Figure 3). The project area looks much the same by 1980 (Figure 11).

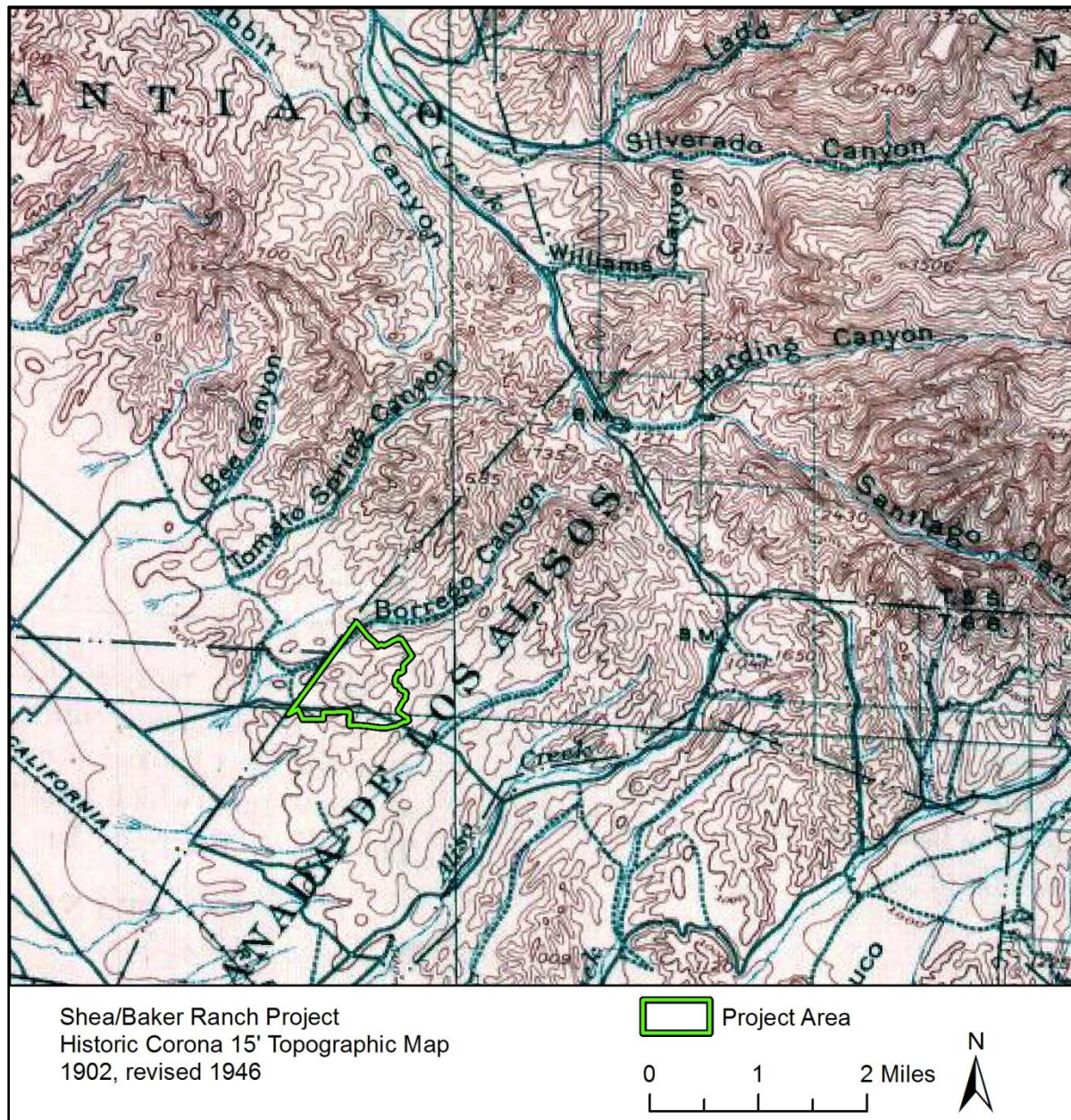


Figure 8. Historical topographic map

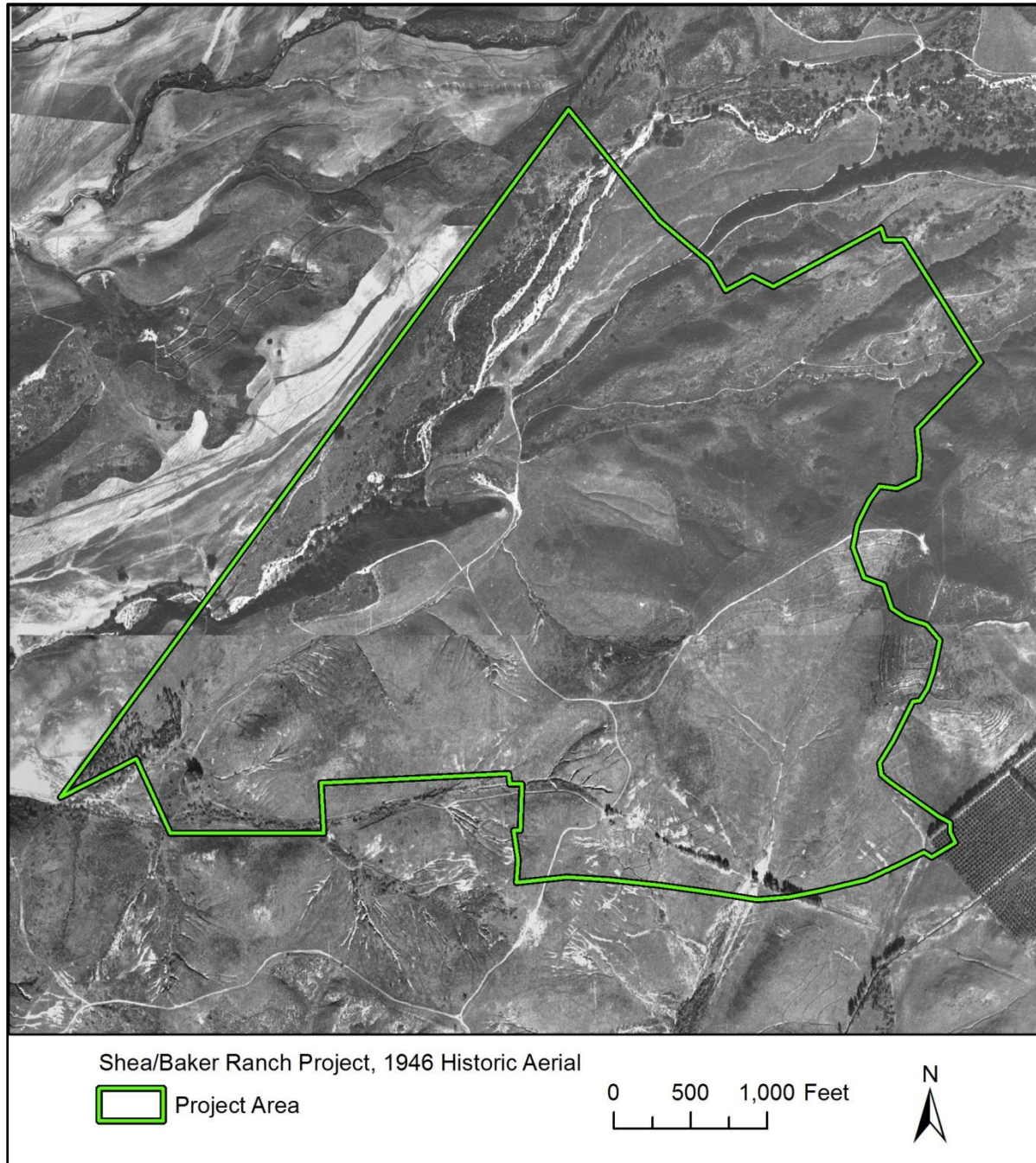


Figure 9. 1946 aerial map

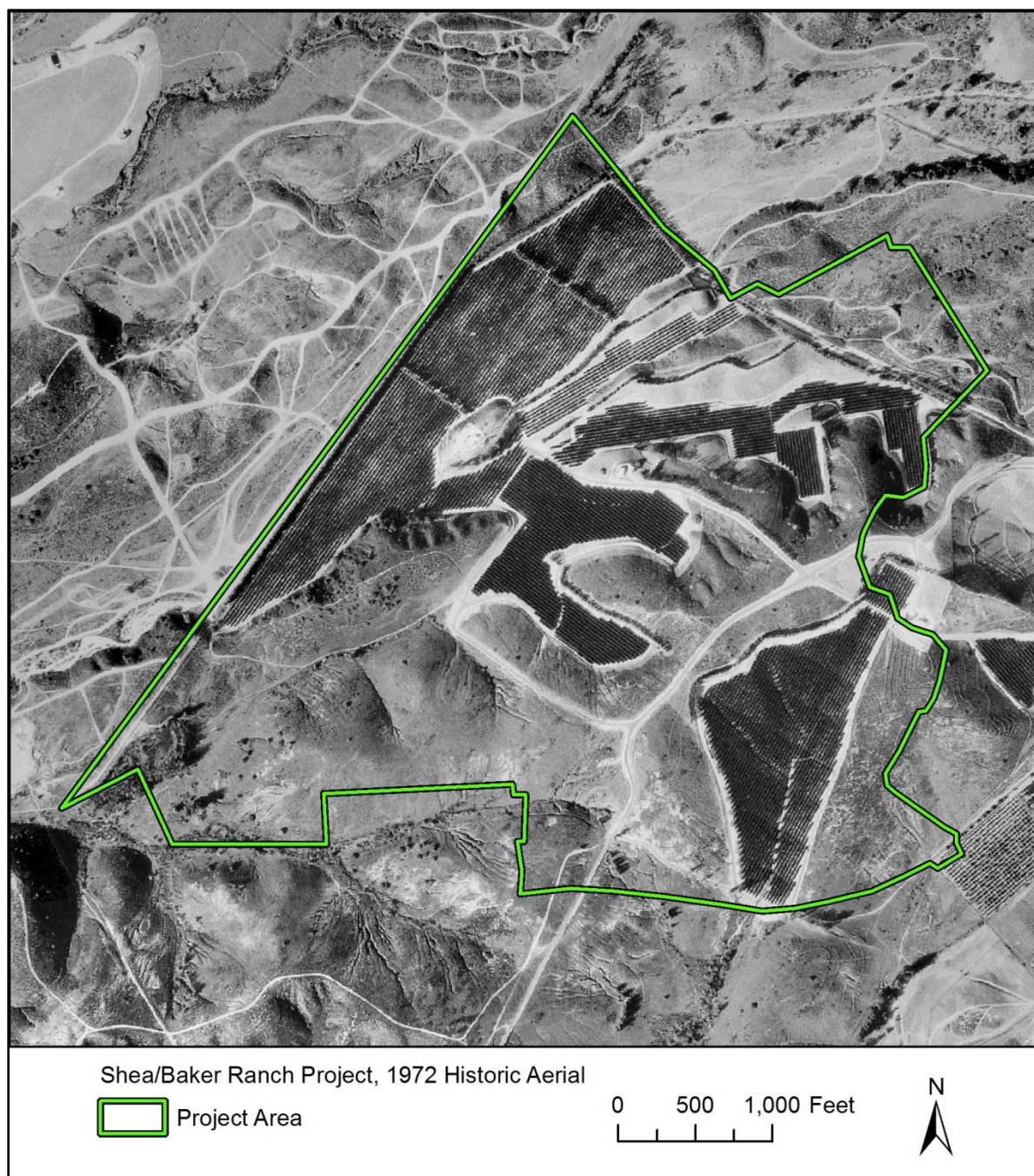


Figure 10. 1972 aerial map

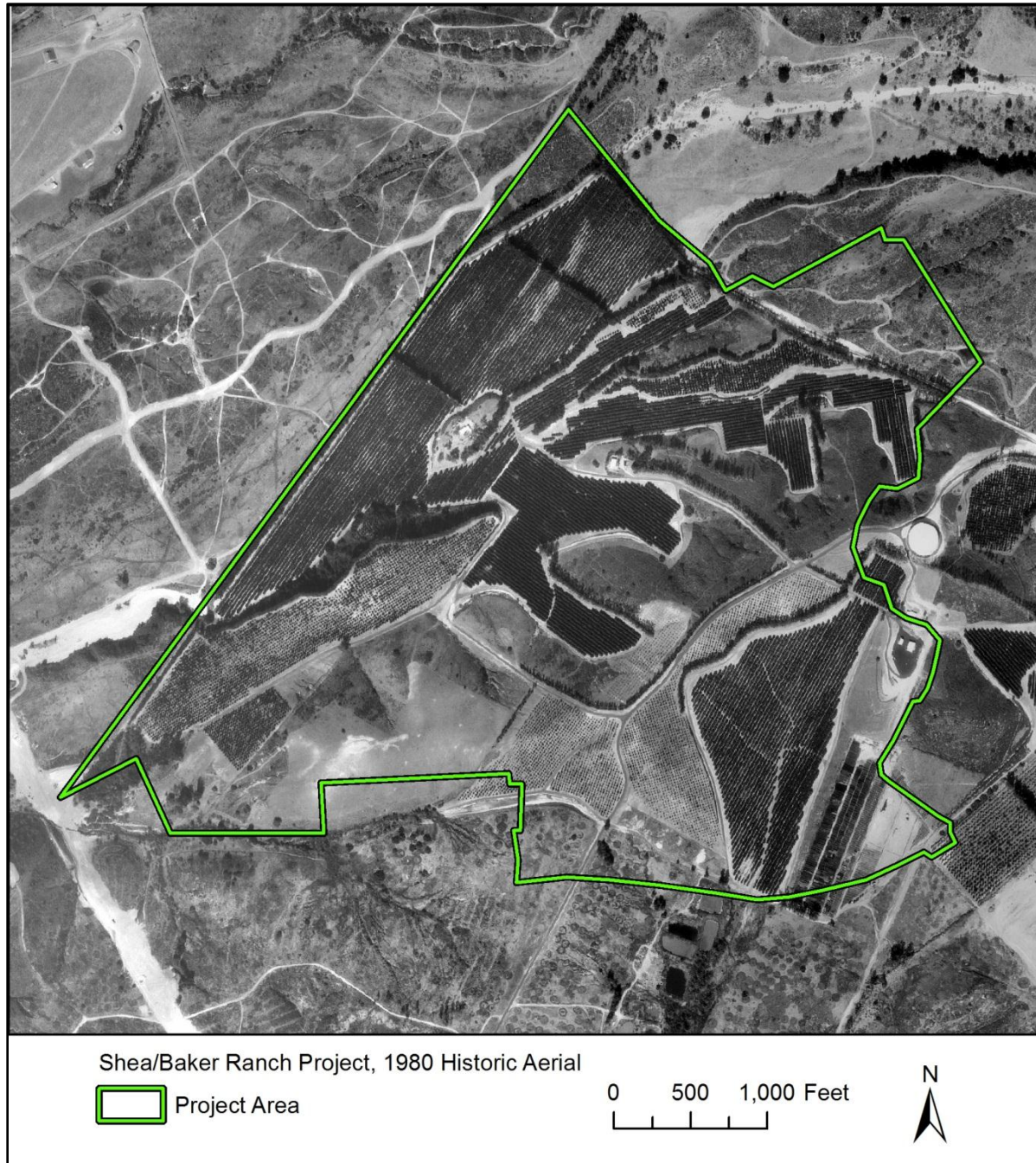


Figure 11. 1980 aerial map

RECORD SEARCH

PALEONTOLOGY

A record search was conducted by staff of the Natural History Museum of Los Angeles County that was negative for resources within or immediately adjacent to the project area (McLeod 2011). A search of prior paleontology reports for the area in the Cogstone library revealed that fossils have previously been recovered within and directly adjacent to the project area (Table 2, Figure 12; Burres 2000, Gust et al. 2000, Gust and Raschke 2001, Morgan and Raschke 1993). All fossils were recovered from the Oso Member of the Capistrano Formation. The fossils for the A.J. West project are curated at the San Diego Natural History Museum and the fossils from the other three projects are curated at the John D. Cooper Center in Santa Ana.

Table 2. Fossils known within and directly adjacent to project area

Common name	Taxon
MARINE MAMMALS	
Whales	
whale	Cetacea
whale, baleen	Mysticeti
whale, rorqual	Balaenopteridae
whale, right	Balaenidae
whale, humpback	<i>Megaptera</i> sp.
whale, killer-sized	Odontoceti
dolphin-sized	Odontoceti
dolphin	<i>Piscolithax</i> sp.
dolphin	<i>Parapontoporia</i> sp.
Imagotarines	
walrus/sea lion ancestor	Imagotariinae
Walruses	
walrus	Odobeninae
walrus, false	<i>Protogomphotaria</i>
walrus, stout limbed	Odobenid, unnamed
pseudo walrus	Odobenid, unnamed
Seals and Sea Lions	
sea lion	Otariidae
otter	Otarioid
seal, fur	Arctocephalini

Sea Cows	
sea cow	Sirenia
sea cow, stellar	<i>Hydrodamalus</i> sp.
manatee	Dugongidae
MARINE SHARKS AND RAYS	
shark, megalodon	<i>Carcharocles megalodon</i>
shark, great white	<i>Carcharodon</i> sp.
shark, bonito	<i>Isurus hastalis</i>
bat ray	<i>Myliobatis</i> sp.
MARINE FISHES	
salmon, sabertooth	<i>Onchorrhynchus rastrosus</i>
salmon	Salmonidae
tuna	Scombridae
sea bass	Serranidae
halibut	<i>Paralichthys</i> sp.
California Halibut	<i>Paralichthys californicus</i>
bony fish	Teleostia
MISC. MARINE	
sea turtle	<i>Hesperotestudo</i>
pelican, giant toothed	<i>Osteodontornis</i>
TERRESTRIAL ANIMALS	
mastodon	Proboscidea
horse (primitive)	<i>Pliohippus</i>
camel (true)	<i>Megatylopus</i>
tortoise	<i>Gopherus</i>

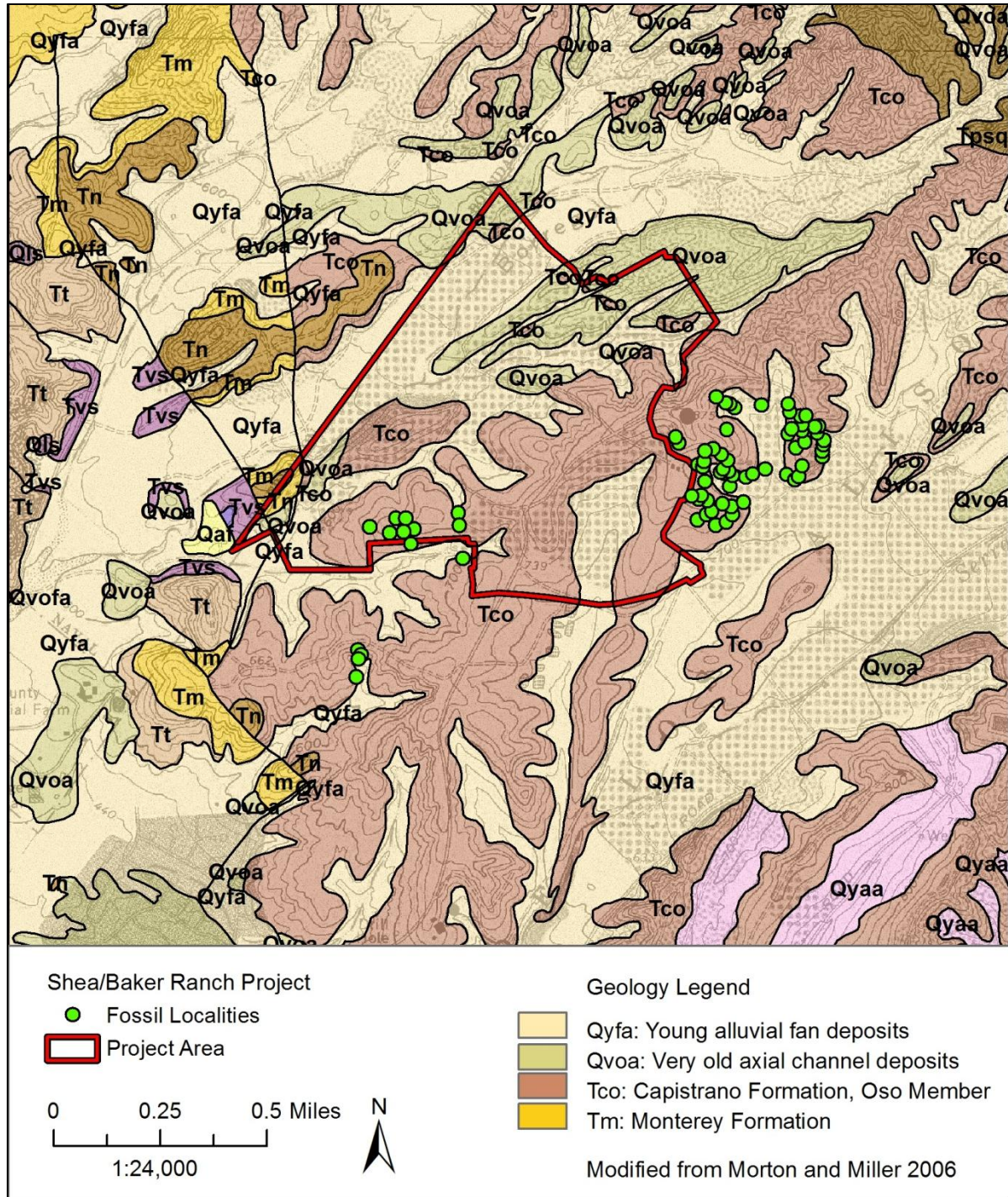


Figure 12. Fossil Localities within and directly adjacent to project

ARCHAEOLOGY AND HISTORY

A search for archeological and historical records was completed by Amy Glover of Cogstone on August 8 and August 10, 2011 at the South Central Coast Information Center, California State University at Fullerton. The record search included the project boundaries and a one-mile radius around the project boundaries. Sources consulted include the National Register of Historical Places, California Register of Historic Resources, California Inventory of Historic Resources, California Historical Landmarks, and California Points of Historical Interest.

The records search determined that there are four known cultural resources within the project area boundaries. These include three prehistoric lithic artifact scatters and one prehistoric site milling site. In addition, five historical sites, including three historical archaeological sites and two built-environment resources, 42 prehistoric archaeological sites, 26 prehistoric isolates and two sites of an unknown type were previously recorded within a one-mile radius of the project boundaries (Table 3). None of the previously-recorded resources are listed as eligible for the National Register of Historic Places.

Previously, 14 archaeological studies were conducted within parts of the project boundaries, and 55 studies were conducted within a one-mile radius of the current project boundaries (Table 4).

Table 3. Recorded sites within a one-mile radius

Reference	Quad	Site Type	Date	Distance from Project
P-30-000037	El Toro	Unknown	1949	Within ½ mile
P-30-000039	El Toro	Prehistoric lithic artifact scatter	1949	Within 1 mile
P-30-000040	El Toro	Prehistoric milling site	1949	Within project area
P-30-000042	El Toro	Prehistoric lithic artifact scatter	1949	Within 1 mile
P-30-000489	El Toro	Prehistoric lithic artifact scatter	1973	Within 1 mile
P-30-000510	El Toro	Prehistoric lithic artifact scatter	1975	Within 1 mile
P-30-000647	El Toro	Prehistoric quarry site	1977	Within ¼ mile
P-30-000648	El Toro	Prehistoric lithic artifact scatter	1977	Within ½ mile
P-30-000755	El Toro	Prehistoric lithic artifact scatter	1978	Within ½ mile
P-30-000756	El Toro	Prehistoric lithic artifact scatter	1978	Within ¼ mile
P-30-000757	El Toro	Prehistoric lithic artifact scatter	1978	Within ½ mile
P-30-000758	El Toro	Prehistoric lithic artifact scatter	1978	Within project area
P-30-000759	El Toro	Prehistoric lithic artifact scatter	1978	Within ¼ mile
P-30-000760	El Toro	Prehistoric lithic artifact scatter	1978	Within ¼ mile

Reference	Quad	Site Type	Date	Distance from Project
P-30-000761	El Toro	Prehistoric lithic artifact scatter	1978	Within 1 mile
P-30-000773	El Toro	Prehistoric lithic artifact scatter	1978	Within 1 mile
P-30-000949	El Toro	Prehistoric lithic artifact scatter	1980	Within ½ mile
P-30-000950	El Toro	Prehistoric lithic artifact scatter	1980	Within 1 mile
P-30-000961	El Toro	Prehistoric lithic artifact scatter	1980	Within ¼ mile
P-30-001004	El Toro	Prehistoric lithic artifact scatter	1981	Within project area
P-30-001057	El Toro	Prehistoric lithic artifact scatter	1984	Within 1 mile
P-30-001062	El Toro	Prehistoric lithic artifact scatter	1984	Within ¼ mile
P-30-001063	El Toro	Prehistoric lithic artifact scatter	1984	Within 1 mile
P-30-001064	El Toro	Prehistoric lithic artifact scatter	1984	Within ½ mile
P-30-001065	El Toro	Prehistoric lithic artifact scatter	1984	Within ¼ mile
P-30-001066	El Toro	Prehistoric lithic artifact scatter	1984	Within ¼ mile
P-30-001070	El Toro	Prehistoric lithic and millingstone artifact scatter	1984	Within 1 mile
P-30-001071	El Toro	Prehistoric lithic artifact scatter	1984	Within 1 mile
P-30-001100	El Toro	Prehistoric lithic artifact scatter	1985	Within 1 mile
P-30-001146	El Toro	Prehistoric encampment	1988	Within 1 mile
P-30-001147	El Toro	Prehistoric quarry site	1988	Within 1 mile
P-30-001148	El Toro	Prehistoric encampment	1988	Within ½ mile
P-30-001149	El Toro	Prehistoric encampment	1988	Within ¼ mile
P-30-001150	El Toro	Prehistoric lithic artifact scatter	1988	Within project area
P-30-001274	El Toro	Prehistoric hearth	1990	Within 1 mile
P-30-001297	El Toro	Prehistoric lithic artifact scatter and midden	1991	Within 1 mile
P-30-001298	El Toro	Prehistoric lithic artifact scatter	1991	Within 1 mile
P-30-001299	El Toro	Prehistoric lithic artifact scatter	1991	Within 1 mile
P-30-001300	El Toro	Prehistoric lithic artifact scatter	1991	Within 1 mile
P-30-001311	El Toro	Prehistoric lithic artifact scatter and midden	1991	Within 1 mile
P-30-001345	El Toro	Prehistoric hearths	1992	Within ¼ mile
P-30-001350	El Toro	Historical buildings and refuse pile	1993	Within ¼ mile
P-30-001356	El Toro	Prehistoric groundstone scatter	1996	Within ½ mile
P-30-001362	El Toro	Prehistoric lithic artifact scatter	1994	Within ½ mile
P-30-001496	El Toro	Historical cattle complex	1980	Within ½ mile
P-30-001498	El Toro	Historical shed	1998	Within ½ mile

Reference	Quad	Site Type	Date	Distance from Project
P-30-001499	El Toro	Historical industrial site	1998	Within ¼ mile
P-30-001500	El Toro	Historical water tank	1998	Within 1 mile
P-30-001581	El Toro	Prehistoric lithic artifact scatter	2000	Within ¼ mile
P-30-100268	El Toro	Prehistoric scraper isolate	Unk	Within ½ mile
P-30-100269	El Toro	Prehistoric core isolate	Unk	Within ¼ mile
P-30-100270	El Toro	Prehistoric lithic artifact scatter	Unk	Within ¼ mile
P-30-100271	El Toro	Prehistoric lithic artifact scatter	Unk	Within ¼ mile
P-30-100272	El Toro	Prehistoric lithic artifact scatter	Unk	Within ¼ mile
P-30-100273	El Toro	Prehistoric mano isolate	Unk	Within 1 mile
P-30-100274	El Toro	Prehistoric core isolate	Unk	Within 1 mile
P-30-100275	El Toro	Prehistoric scraper isolate	Unk	Within 1 mile
P-30-100276	El Toro	Prehistoric core isolate	1980	Within ½ mile
P-30-100277	El Toro	Prehistoric mano isolate	1980	Within ¼ mile
P-30-100278	El Toro	Prehistoric hammerstone isolate	1980	Within ¼ mile
P-30-100279	El Toro	Prehistoric mano isolate	1980	Within ½ mile
P-30-100280	El Toro	Prehistoric core isolate	1980	Within ½ mile
P-30-100281	El Toro	Prehistoric flake tool isolate	1980	Within ½ mile
P-30-100282	El Toro	Prehistoric mano isolate	1980	Within ½ mile
P-30-100283	El Toro	Prehistoric core isolate	1980	Within 1 mile
P-30-100284	El Toro	Prehistoric core isolate	1980	Within 1 mile
P-30-100285	El Toro	Prehistoric flake tool isolate	1980	Within 1 mile
P-30-100286	El Toro	Prehistoric milling stone isolate	1980	Within 1 mile
P-30-100287	El Toro	Prehistoric mano isolate	1980	Within 1 mile
P-30-100288	El Toro	Unknown	Unk	Within 1 mile
P-30-100289	El Toro	Prehistoric milling stone	1980	Within 1 mile
P-30-100290	El Toro	Prehistoric core isolate	1980	Within 1 mile
P-30-100313	El Toro	Prehistoric core isolate	1998	Within ¼ mile
P-30-100316	El Toro	Prehistoric pestle isolate	1998	Within 1 mile
P-30-100438	El Toro	Prehistoric scraper isolate	1984	Within 1 mile
P-30-100439	El Toro	Prehistoric mano isolate	1984	Within 1 mile
P-30-100444	El Toro	Prehistoric chopper isolate	1989	Within ¼ mile
P-30-100447	El Toro	Prehistoric core isolate	1991	Within 1 mile
P-30-100449	El Toro	Prehistoric flake isolate	1991	Within 1 mile

Reference	Quad	Site Type	Date	Distance from Project
P-30-100453	El Toro	Prehistoric flake isolate	1994	Within ¼ mile

Table 4. Previous archaeological studies within a one-mile radius

Author	Ref (OR-)	Title	Date	Quad	Distance from Project
Mabry, Theo N.	00275	Agua Chinon Flood Control Improvement Project	1978	El Toro	Within ¼ mile
Cottrell, Marie G.	00277	Archaeological Reconnaissance of the Serrano Highlands, Project Area (rancho De Los Alisos, Units 1 & 2)	1978	El Toro	Within 1 mile
Clevenger, Joyce M.	00457	Archaeological Investigations on Portions of CA-ORA-647 and CA-ORA-648: Two Sites Located Within the Santiago Aqueduct Parallel Project	1979	El Toro	Within ½ mile
Ahlering, Michael L.	00571	Report of Findings of a Scientific Resources Survey and Study: Conducted on a Portion of the Whiting Ranch, Orange County, California	1973	El Toro	Within project area
Cooley, Theodore G. Cottrell, Marie G.	00591	Archaeological Assessment of the Whiting Ranch	1980	El Toro	Within project area
Bissell, Ronald M.	00611	Cultural Resource Reconnaissance of the Baker Ranch Property, El Toro Orange County	1988	El Toro	Within project area
Jertlberg, Patricia R.	00627	An Archaeological Test and Salvage Investigation of CA-ORA-39 and CA-ORA-773, Orange County, California	1981	El Toro	Within 1 mile
Cottrell, Marie G.	00629	Archaeological Resource Assessment for Two Parcels Near El Toro, California	1981	El Toro	Within 1 mile
Breece, Bill Padon, Beth	00648	Cultural Resource Survey: Archaeological Resources: Foothill Transportation Corridor, Phase I	1982	El Toro Santiago Peak	Within project area
Bissell, Ronald M.	00730	Cultural Resources Assessment Tentative Tract 12110 Orange County, California	1984	El Toro	Within 1 mile
Bissell, Ronald M.	00738	Cultural Resources Assessment Tentative Tract 11986 Orange County, California	1984	El Toro	Within 1 mile
Bissell, Ronald M.	00748	Cultural Resources Assessment Los Alisos Research and Development Park El Toro, Orange County, California	1984	El Toro	Within project area
Padon, Beth	00753	Archaeological Resource Assessment Irvine Industrial Complex East Phase Iv, City of Irvine.	1984	El Toro	Within 1 mile

Author	Ref (OR-)	Title	Date	Quad	Distance from Project
Bissell, Ronald M.	00773	Archaeological Site CA-ORA-1057, a Late Prehistoric Period Hunting Camp in El Toro, Orange County, California	1985	El Toro	Within 1 mile
Bissell, Ronald M.	00798	Archaeological Survey of the Canada Apartments Property in El Toro, Orange County, California	1985	El Toro	Within 1 mile
Bissell, Ronald M.	00799	Archaeological Survey of Property Belonging to the William Lyon Company El Toro, Orange County, California	1985	El Toro	Within 1 mile
Cottrell, Marie Del Chario, Kathleen Drummy-Chapel, Vada Cooper, John D.	00813	Archaeological, Historical, and Paleontological Assessment of the Musick Facility, Orange County, California	1985	El Toro	Within ½ mile
Padon, Beth	00847	Archaeological Resource Inventory City of Irvine and its Sphere of Influence	1985	Black Star Canyon Tustin	Within ¼ mile
Bissell, Ronald M.	00875	Cultural Resources Reconnaissance of the Canada Ridge Lane Property, El Toro, Orange County, California	1987	El Toro	Within 1 mile
Bissell, Ronald M.	00909	Cultural Resources Reconnaissance of Tentative Parcel 83-110, El Toro, Orange County	1988	El Toro	Within ½ mile
Drover, Christopher E., Henry C. Koerper	00934	Archaeological Test Investigations: The Phase I Development of the Whiting Ranch	1982	El Toro	Within ½ mile
Bissell, Ronald M.	00940	Interim Report Test Excavation of Nine Archaeological Sites on the Pacific Commercentre Property, El Toro Area, Orange County California	1988	El Toro	Within ¼ mile
Brock, James P.	00970	Report on Archaeological Monitoring of Rough Grading for the Baker Extension of Lake Forest Drive, El Toro, California	1989	El Toro	Within 1 mile
Del Chario, Kathleen C. Drummy-Chapel, V. Demcak, C.R.	01022	Cultural Resource Assessment for the Aleen-McColloch Pipeline (amp) Flow Augmentation Project Reaches S4b/s5	1989	El Toro	Within ¼ mile
Brown, Joan C.	01067	Cultural Resources Reconnaissance of the 72 Acre El Toro Industrial Park	1991	El Toro	Within 1 mile
Brock, James P.	01088	Report on Archaeological Monitoring of Rough Grading of Bake Parkway From Portola Parkway to Station 159+40.81, El Toro, California	1990	El Toro	Within project area
Cooley, Theodore G.	01099	Archaeological Resources Assessment Conducted for Propos	1979	El Toro, Tustin	Within project area
Rosenthal, Jane	01127	Past to Present: Cultural and Scientific Resources, an Archival Inventory	1991	Black Star Canyon,	Within 1 mile

Author	Ref (OR-)	Title	Date	Quad	Distance from Project
		Irvine Ranch Open Space Reserve Orange County, California		El Toro	
Sire, Joan, Johnstone, Edward, Desautels, Doren	01152	Archaeological Test Report on the Archaeological Resources Contained on a 279+ Acre Parcel of Land Located in the Canada De Los Alisos Area of the County of Orange	1978	El Toro	Within 1 mile
Macko, Michael E., Hurd, Gary	01308	Final Report Buried Archaeological Features in Bornego Canyon Results of Archaeological Monitoring and Data Recovery Excavations for the Foothill Transportation Corridor, Northern Segment, Construction Sections F8 and F9	1992	El Toro	Within ¼ mile
Macko, Michael E.	01309	Final Report Summary of Archaeological Monitoring, Test Excavations, and Data Recovery for the Foothill Transportation Corridor Northern Segment	1993	El Toro, Santiago Peak	Within ¼ mile
Macko, Michael E., Hurd, Gary	01310	Results of Archaeological Test Excavations for the Foothill Transportation Corridor Northern Sediment, Construction Section F8 and F9	1992	El Toro	Within ¼ mile
Macko, Michael E., Hurd, Gary	01311	Final Report Early Settlement in Aqua Chinon Canyon Results of Archaeological Data Recovery Excavations at CA-ORA-1070 -1298, and -1299, Foothill Transportation Corridor, Northern Segment, Construction Sections F8 and F9	1992	El Toro	Within 1 mile
Macko, Michael E., Hurd, Gary	01312	Appendices To: Final Report Early Settlement in Agua Chinon Canyon Results of Archaeological Data Recovery Excavations at CA-ORA- 1070, -1298 and -1299, Foothill Transportation Corridor Northern Segment, Construction Sections F8 and F9	1992	El Toro	Within 1 mile
Weber, Carmen A.	01353	Cultural Resources Survey for the Central pool Augmentation and Water Quality Project	1992	Black Star Canyon, Canada Gobernado ra	Within 1 mile
Munoz, Jeanne	01354	History and Historical Resources of the Whiting Ranch	1980	El Toro	Within project area
Brock, James P.	01364	Report on Archaeological Monitoring of Rough Grading of Planning Area 6, Foothill Ranch, El Toro, California	1993	El Toro	Within ¼ mile
Brown, Joan C.	01372	Mitigation and Monitoring of Eight Prehistoric Archaeological Sites, CA- ORA-510, CA-ORA-647, CA-ORA-	1993	El Toro	Within ¼ mile

Author	Ref (OR-)	Title	Date	Quad	Distance from Project
		648, CA-ORA-1062, CA-ORA-1063, CA-ORA-1066, CA-ORA-1171, Located in Southern Orange County, California			
Brock, James P.	01376	Archaeology of Foothill Ranch Planning Area 15 and a Portion of Planning Area 16, El Toro, California	1994	El Toro	Within ¼ mile
Brown, Joan C.	01407	Cultural Reconnaissance for the Service Connection Enlargement of the Flow Control Facility St-04	1994	El Toro	Within ¼ mile
Demcak, Carol R.	01408	Final Report of Test Level Investigation at ORA-758, Alton Parkway Extension Project, County of Orange, California	1994	El Toro	Within project area
	01467	Final Report on Archaeological Investigations for Tracts 11725 and 13419: Phase 1 the Foothill Ranch Development Orange County, California	1992	El Toro	Within project area
Brock, James P.	01495	Report on Archaeological Monitoring of Rough Grading of Planning Area 8, Foothill Ranch, El Toro, California	1996	El Toro	Within ½ mile
Jertberg, Patricia R.	01566	Archaeological and Paleontological Services for Extended Stay America, 20251 Lake Forest Drive, Lake Forest (permit #7917), California	1997	El Toro	Within 1 mile
Jertberg, Patricia R.	01567	Archaeological Services for 25781 Atlantic Ocean Drive, Lake Forest (permit #w007506)	1997	El Toro	Within 1 mile
Nicoll, Gerald A.	01583	Archaeology and Paleontology Report for Rancho De Los Alisos Area, Orange County, California	1974	El Toro	Within 1 mile
Jertberg, Patricia R.	01678	Archaeological Services for Tract 13344, Lot 6, 25741 Atlantic Ocean Drive, Pacific Commercentre, Lake Forest, Orange County, California	1998	El Toro	Within ¼ mile
Jertberg, Patricia R.	01679	Archaeological Services for Tract 13343, Lot 5, Pacific Commercentre, Lake Forest	1998	El Toro	Within ½ mile
Brock, James P.	01687	Report on Archaeological Monitoring of Rough Grading of Planning Area 16, Tentative Tract 13419, Foothill Ranch, El Toro, California	1998	El Toro	Within project area
Jertberg, Patricia R.	01696	Archaeological Services for Tract 13344, Lot 13, 26012 Atlantic Ocean Drive, and Lot 39, 26021 Commercentre Drive, Lake Forest	1998	El Toro	Within ¼ mile
Jertberg, Patricia R.	01697	Archaeological Services for Tract 13343, Lot 1, 20571 Crescent Bay Drive, Lake Forest	1998	El Toro	Within ¼ mile
Padon, Beth	01839	Assessment of Prehistoric Resources Aqua Chinon Retarding Basin, Orange	1995	El Toro	Within 1 mile

Author	Ref (OR-)	Title	Date	Quad	Distance from Project
		County, California			
Cottrell, Marie G., Murray, John	01841	Archaeological Resources Assessment Completed for the Marine Corps Air Station El Toro, California	1987	El Toro	Within ¼ mile
Duke, Curt	01947	Cultural Resource Assessment for the Los Angeles Cellular Telephone Company, Facility Number E875	1998	El Toro	Within 1 mile
Brock, James P.	02111	Cultural Resources Assessment of a 13.2 Acre Property in Lake Forest	2000	El Toro	Within 1 mile
Hoover, Anne M.	02211	Cultural Resources Reconnaissance and Monitoring of Pacific Commercentre, and Mitigation of CA-ORA-1581, City of Lake Forest, County of Orange, Ca	2001	El Toro	Within ¼ mile
Brock, James P.	02218	Archaeological Assessment for the Proposed Comfort Inn Project, 20768 Lake Forest Drive, Orange County, Ca	2000	El Toro	Within 1 mile
Hoover, Anna M.	02334	Archaeological and Paleontological Monitoring at Lots 9 and 10, Tract 15753, Lake Forest, Orange County, California	2001	El Toro	Within ¼ mile
Allen, Rebecca	02649	Archaeological Survey Report Marine Corps Ari Station, El Toro	1997	El Toro	Within ¼ mile
Demcak, Carol R.	02928	Final Report of Salvage Level Investigations at ORA-758, Alton Parkway Extension Project, County of Orange, California	1994	El Toro	Within project area
Drover, Christopher E., Koerper, Henry C., Lambert, Craig	02938	A Cultural Resources Inventory for Planning Area 6, Irvine, California With Appendices	2001	El Toro	Within 1 mile
Wlodarski, Robert J.	02954	Records Search Results for the Proposed Mountain Union Telecom Regency Lane Cell Site (po/ref# Sfo4001), Located at 20595 Regency Lane, City of Lake Forest, County of Orange, California	2004	El Toro	Within 1 mile
Harper, Caprice D.	03052	Cultural Resource Assessment Cingular Wireless Facility No. Sc 174-01 Foothill Ranch, Orange County, California	2004	El Toro	Within 1 mile
Wiley, Lorraine M.	03056	Mcas El Toro Monitoring Wells Survey	2003	El Toro	Within 1 mile
Maxon, Patrick O.	03748	Phase II Archaeological Evaluation CA-ORA-1004 & CA-ORA-1150	2009	El Toro	Within project area
Maxon, Patrick O.	03749	Phase I Cultural Resources Survey-Proposed Alton Parkway Extension Project, Including Baker Ranch, Lake Forest, CA	2008	El Toro	Within project area
Clark, Fatima	03770	Results of the Cultural Resource Assessment for the Southern California	2009	El Toro	Within 1 mile

Author	Ref (OR-)	Title	Date	Quad	Distance from Project
		Edison Replacement of Deteriorated Pole Nos. 2140160E, 2140170E, 2140171E, 2140178E, 2140179E, and 2280425; Orange County, California; WO 4805-0557			
Deering, Mark, Mason, Roger D.	03989	Cultural Resources Documentation and Monitoring of Southern California Edison Access Roads During Maintenance by the orange County Fire Authority, 2010 Orange County, California	2011	Black Star Canyon, Canada Gobernadora, El Toro, Laguna Beach, Orange, San Clemente, San Juan Capistrano, Tustin	Within 1 mile
Deering, Mark, Mason, Roger	04029	Cultural Resources Monitoring of Southern California Edison Access Roads Maintained by Orange County Fire Authority, Orange County, California (JPA E6088-0031; I.O. 305869)	2010	Black Star Canyon, Canada Gobernadora, El Toro, Laguna Beach, Orange, San Clemente, San Juan Capistrano, Tustin	Within 1 mile

OTHER SOURCES

In addition to the records at the SCCIC, a variety of sources were consulted by Glover in August 2011 to obtain information regarding the project area (Table 5). Specific information about the project area, gleaned from historical maps (Meriam Library 2010) and aerial photographs, is presented above in Project Area History.

Table 5. Additional sources consulted

Source	Results
National Register of Historic Places (1979-2002 & supplements)	Negative
Historic United States Geological Survey topographic maps	Does not show any buildings in vicinity of project area

Source	Results
Historic United States Department of Agriculture aerial photos	Shows 20 th century development
California Register of Historical Resources (1992-2010)	Negative
California Inventory of Historic Resources (1976-2010)	Negative
California Historical Landmarks (1995 & supplements to 2010)	Negative
California Points of Historical Interest (1992 to 2010)	Negative
California Department of Transportation Historic Bridge Inventory (Caltrans 2007)	Negative
Local Historical Register Listings	Negative
Bureau of Land Management General Land Office Records	Shows three land owners

A search of the Bureau of Land Management General Land Office Records available on the Internet revealed that three individuals had obtained land patents for portions of the project area from 1867 to 1871 (Table 6; BLM n.d.).

Table 6. BLM land patents for proposed project area

Name	Date	Acres	Aliquots	Section	T	R
Jose Sepulveda	1867	48342	All	2, 11	6S	8W
Theodocio Yorba	1868	45891	All	1, 2	6S	8W
Jose Serrano	1871	7627	All	1, 2, 11, 12	6S	8W

NATIVE AMERICAN CONSULTATION

A sacred lands record search was requested by Cogstone staff from the Native American Heritage Commission on August 3, 2011. On August 5, the Commission responded, stating there were no known sacred lands within the APE boundaries (Appendix B); however, they requested that 15 Native American tribes or individuals be contacted for further information.

Letters requesting information on any known heritage sites, and containing maps and project information were sent to the 15 Native American contacts on August 8, 2011. Mr. David Belardes and Ms. Joyce Perry of the Acjachemen Nation both contacted Cogstone and expressed their concerns about the project; they stated that the project area is very sensitive and that sites in the vicinity of the project area have been found not only on the surface but also 30 to 40 feet below surface. They strongly recommend a monitor be present for all ground disturbances. No other responses were received.

DISCUSSION OF KNOWN RESOURCES

PALEONTOLOGICAL LOCALITIES

Fossils are known within the project boundaries and from previous projects directly adjacent in the late Miocene to Pliocene Oso Member of the Capistrano Formation. Baleen whales and sabertoothed salmon have been the most frequent finds with lesser quantities of other types of whales including dolphins, a variety of pinnipeds, sea cows, sharks including giant white, great white and bonito, a variety of fishes, sea turtle, giant toothed pelican, and some land animals including fossil elephant, horse, camel and tortoise. Any excavations in the Oso have potential to create adverse impacts on significant vertebrate paleontological resources. In addition, deep excavations into the Pleistocene terrestrial sediments have potential to impact widely spaced and unpredictable occurrences of terrestrial fossils.

ARCHAEOLOGICAL SITES

P-30-000040

This prehistoric site was originally recorded in 1949 and has never been updated. The only information is a statement that “Mortars have been plowed up by Dan Osterman”. No resources have been reported in this location during subsequent work. The mortars are presumed to have been a cache for processing plants that occurred seasonally. The ground surface of this site was covered by gravel and being used as a nursery in 1988 (Bissell 1988). Maxon (2008) stated that the site had been completely destroyed. As this site has no potential to contribute information new to history, no further work is required for this site.

P-30-000758

This prehistoric site was situated on a knoll projecting into Borrego Canyon. Sparse surface scatter consisted of a scraper, cores, utilized flakes and a mano. The site was originally recorded in 1978 and updated in 1981 and again in 1996. The 1981 update expanded the boundaries of the site, noting additional artifacts such as a metate fragment, scraper planes, hammerstones and debitage (ARMC 1981). The site is partially on private property and partially within the boundaries of the former MCAS El Toro.

In 1988 a survey noted the site appeared to have been graded and was overgrown with heavy brush. No artifacts could be seen (Bissell 1988). Survey in 1992 for a water project relocated the site and required testing before further impacts (Chambers 1992). In 1994 a portion of the

site was tested and found to have a depth of over 1.1 meters (Demcak 1994a). Subsequently data recovery was conducted on that portion of the site (Demcak 1994b). The site was determined to represent millingstone period site. A discoidal and metate fragment (ground stone) were recovered along with chipped stone tools and debitage. Demcak specifically noted that intact portions of the site remained but were outside the impact area of the 1994 project. Maxon (2008) surveyed the site for the proposed Alton Parkway extension and stated that the site had been mitigated through data recovery (contra Demcak) although artifacts were still present on the surface. A survey in 1997 for MCAS El Toro found that the portion of the site within the boundaries of the base displayed integrity and still had data potential (Allen 1997). Extension of Alton Parkway may impact portions of this site that still have data potential and have not been adequately mitigated. However, this site is included in the Final EIR 585 for the Alton Parkway Extension Project (State Clearinghouse Number 2002121105) and is part of that project.

P-30-001004

This prehistoric site, also known as CA-ORA-1004, was recorded in 1981 as a small scatter of a few flakes, a core and a hammerstone. In 1988 a survey reported the site had been damaged by road construction and planting of avocado trees. In spite of extensive leaf cover on the ground, over 50 lithic artifacts were observed (Bissell 1988). Maxon (2008) stated that no artifacts were observed on the surface but that given minimal disturbance the site should be tested. Test excavations (Maxon 2009) did not recover any artifacts. As this site has no potential to contribute information new to history, no further work is required for this site.

P-30-001150

This prehistoric site was recorded as a lithic scatter in 1988. Survey in 2008 (Maxon 2008) stated that lithic flakes were present. Testing (Maxon 2009) did not recovery any artifacts. As this site has no potential to contribute information new to history, no further work is required for this site.

CONCLUSIONS

Any excavations in the Oso Member of the Capistrano Formation have potential to create adverse impacts on significant vertebrate paleontological resources. In addition, deep excavations into the Pleistocene terrestrial sediments have potential to impact widely spaced and unpredictable occurrences of terrestrial fossils.

Three of four previously known archaeological sites have been either destroyed by past conditions or determined not to meet significance criteria under CEQA. One site (P-30-758) is within the current Alton Parkway Extension and covered by the EIR for that project. Native

Americans expressed concerns that deeply buried sites may be present. This would be restricted to the alluvial sediments on the northwestern portion of the project as no sites will be present in the underlying ancient bedrock.

RECOMMENDATIONS

This project area is covered by mitigation measures approved as part of the City of Lake Forest Opportunities Study Program EIR (http://www.lakeforestca.gov/depts/ds/planning/op_study/peir.asp) and listed below. These measures are adequate but should be amended to include Native American involvement with any prehistoric archaeological sites newly discovered and to insure that the study of fossils recovered includes a research design that will place these resources into a regional context, not just produce another list.

EXISTING MITIGATION MEASURES

MM 35.1: Prior to issuance of a grading permit for any site within the Project Area, a qualified archaeologist shall be retained by the applicant for that grading permit to provide professional archaeological services. The archaeologist shall be present at the pre-grading conference to establish procedures for archaeological resources surveillance. Those procedures shall include provisions for temporarily halting or redirecting work to permit sampling, identification, and evaluation of resources deemed by the archaeologist to potentially be historical resources or unique archaeological resources under CEQA. If, before grading, any portions of the property subject to the grading permit have been identified as sites, which may have such resources present and may be impacted by development, the archaeologist shall conduct a site survey and records search and such further examination as may be needed to assess the significance of the resources. If the archaeological resources are determined to be a unique archaeological resource, options for avoidance or preservation in place shall be evaluated and implemented if feasible. In the event that avoidance or preservation in place is infeasible and the archaeologist determines that the potential for significant impacts to such resources exists, a data recovery program shall be expeditiously conducted. The archaeologist also shall conduct on-site archaeological monitoring for the grading operation. Should historical resources or unique archaeological resources be discovered during the grading operation, grading activities shall be modified to allow expeditions and proper analysis and/or salvage of the resources. Disposition of the resources shall be within the discretion of the City of Lake Forest.

MM 3.5-2: The qualified archaeologist retained shall prepare monthly progress reports to be filled with the site developer(s) and the City of Lake Forest.

MM 3.5-3: Artifacts recovered shall be prepared, identified, and cataloged before donation to the

accredited repository designated by the City of Lake Forest. State of California Guidelines for the Curation of Archaeological Collections shall be consulted regarding the treatment of recovered artifacts. Any artifacts determined to be insignificant shall be offered to local schools for use in educational programs.

MM 3.5-4: The qualified archaeologist retained shall prepare a final report to be filed with the site developer(s) and the City of Lake Forest. The qualified archaeologist retained shall prepare a final report to be filed with the site developer(s), the City of Lake Forest, and the South Central Coastal Information Center. The report shall include a list of specimens recovered, documentation of each locality, interpretation of artifacts recovered, and shall include all specialists' reports as appendices.

MM 3.5-5 Prior to issuance of a grading permit, a qualified paleontologist shall be retained by the site developer(s) to provide professional paleontological services. Specifically, during grading activities, the qualified paleontologist shall conduct on-site paleontological monitoring for the project site. Monitoring shall include inspection of exposed surfaces and microscopic examination of matrix to determine if fossils are present. The monitor shall have authority to divert grading away from exposed fossils temporarily in order to recover the fossil specimens. Cooperation and assistance from on-site personnel will greatly assist timely resumption of work in the area of the fossil discovery.

MM 3.5-6: The qualified paleontologist retained shall prepare monthly progress reports to be filed with the site developer(s) and the City of Lake Forest.

MM 3.5-7: Fossils recovered shall be prepared, identified, and cataloged before donation to the accredited repository designated by the City of Lake Forest.

MM 3.5-8: The qualified paleontologist retained shall prepare a final report to be filed with the site developer(s) and the City of Lake Forest. The report shall include a list of specimens recovered, documentation of each locality, interpretation of fossils recovered, and shall include all specialists' reports as appendices.

AMENDMENTS SPECIFIC TO SHEA/BAKER RANCH PROJECT

AMM 1: The identification efforts presented in this document are sufficient to guide work in the subsequent five years (until 2016). If work occurs after that time, updated record searches are required. No new surveys are necessary.

AMM 2: If prehistoric archaeological sites (not isolates) are discovered during monitoring of earthmoving, Native American representatives will be retained to observe evaluation activities and will contribute to discussion of any treatment proposed.

AMM 3: The principal paleontologist will develop a research design to place newly and previously discovered fossils from the project area into a regional context and will specifically include research questions to be answered during fossil recovery work.

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APPENDIX A: QUALIFICATIONS

SHERRI GUST

Project Manager & Principal Investigator, Paleontology and Archaeology

EDUCATION

1994 M. S., Anatomy (Evolutionary Morphology), University of Southern California, Los Angeles
1979 B. S., Anthropology (Physical), University of California, Davis

SUMMARY QUALIFICATIONS

Gust has more than 30 years of experience in California, acknowledged credentials for meeting national standards, and is a certified/qualified principal archaeologist and paleontologist in all California cities and counties that maintain lists. Gust is an Associate of the Natural History Museum of Los Angeles County in the Vertebrate Paleontology and Rancho La Brea Sections. She is a Member of the Society of Vertebrate Paleontology, Society for Archaeological Sciences, Society for Historical Archaeology, the Society for California Archaeology and others. She has special expertise in the identification and analysis of human, animal and fossil bone. In addition, she is a Reader at the Huntington Library and is knowledgeable about archival research.

SELECTED PROJECTS

Tehachapi Renewable Transmission Project, Segments 1-3. Paleontological resources management plans, Phase I activities, archaeological and paleontological monitoring, artifact and fossil recovery, lab work, GIS mapping, multiple supplement survey and variance reports for construction of new electrical transmission facilities in Los Angeles and Kern Counties. Project Manager and Principal Archaeologist for Cogstone's work and Principal Paleontologist for entire project. 2007-9.

First Street Trunk Line Water Project. Archaeological and paleontological assessment and monitoring of installation of new water main in Los Angeles. Project Manager and Principal Paleontologist. 2006-9.

Opid's Camp. Archaeological Resource Damage Assessment for Locus 1 of Historic Archaeological Site (FS 05-01-51-82) within the Camp Hi-Hill Historic District, Angeles National Forest, Los Angeles County. Project Manager and Principal Archaeologist. 2009.

Pixar Animation Studios Construction Stage 1 Project. Archaeological and paleontological monitoring of studio expansion, artifact recovery and monitoring compliance report in Emeryville, California. Project Manager and Principal Paleontologist and Archaeologist. 2009.

Irvine Business Complex. Archaeological and Paleontological Evaluation of business complex with recent high density housing additions in Irvine, California. Project Manager and Principal Paleontologist and Archaeologist. 2009.

Scattergood Olympic Line. Archaeological and Paleontological Assessment and Mitigation Plan for new 11 mile underground electrical transmission line in Los Angeles. Project Manager and Principal Paleontologist and Archaeologist. 2008-9.

Spring Trails Project. Archaeological and Paleontological Resources Assessment of 350 acre residential development with evaluation of previous work and Mitigation Plan in San Bernardino. Project Manager and Principal Paleontologist and Archaeologist. 2008-9.



AMY GLOVER
Archaeologist/ Cross-Trained Paleontologist
& Laboratory Supervisor

EDUCATION

- 2004 B.S., Anthropology (Biological), University of California, Riverside
- 2004 Archaeological Collections Management Internship, San Diego Archaeological Center

SUMMARY QUALIFICATIONS

Glover has more than four years of archaeological experience in California, and knowledge in lab procedures, including the preparation of collections for curation. Glover specializes in historic artifacts, and has over 48 hours of paleontology cross-training.

SELECTED PROJECTS AND REPORTS

Eastside Goldline Light Rail/Subway Project & Historic Los Angeles Cemetery. Archaeology/paleontology monitor, lab supervisor. Performed archaeological/paleontological monitoring, data recovery and field lab supervision, cataloguing, identification, and analysis of Euro-American and Chinese artifacts from over 150 human interments. Also co-authored the final report. 1,968 total hours on project. 2005-Present.

Santa Ysabel Ranch. Archaeology/paleontology monitor, lab supervisor. 200-acre land development in San Luis Obispo counting. Performed mitigation monitoring, artifact and fossil recovery, laboratory processing of prehistoric artifacts for curation. 967 hours on project. 2004-2005

Tehachapi Renewable Transmission Project. Installation of new electrical facilities in Los Angeles & Kern County. Archaeology/paleontology Monitor for Segments 1,2, and 3. Also performed supplemental surveys, site record preparation, and co-authored supplemental survey reports. 470 hours on project. 2008-2009

Rosedale Development /Monrovia Nursery Project. Mixed-use development of roughly 500 acres of land previously used as a plant nursery. Archaeology/paleontology monitor, lab supervisor. Performed cultural resources monitoring, recovery of artifacts, laboratory processing and preparation for curation. 345 hours on project. 2004-2007

Komar Desert Center Project. Development of roughly 18-acres for retail space and associated parking. Archaeology/Paleontology monitor and lab supervisor. Performed mitigation monitoring, fossil and artifact recovery, laboratory processing and preparation of artifacts for curation. Lead author on final report. 266 hours on project. 2007-2008

Pomona Valley Creamery. Redevelopment of the historic creamery into a new educational building on the Western University campus. Archaeology/paleontology monitor, lab supervisor. Performed archaeological pedestrian survey, excavation of three historic trash pits, construction monitoring and the identification, cataloguing and analysis of historic artifacts. Lead author on the final report. 225 hours on project. 2007

Malburg Generating Station. Construction of the Malburg Generating Station, a 134-megawatt power plant adjacent to the City of Vernon's existing Station A, natural gas and water pipelines, and associated lay-down and storage areas. Lab supervisor. Performed artifact recovery and analysis. 193 hours on project.

APPENDIX B: NATIVE AMERICAN HERITAGE COMMISSION

STATE OF CALIFORNIA

Edmund G. Brown, Jr., Governor

NATIVE AMERICAN HERITAGE COMMISSION

915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-8251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
ds_nahc@pacbell.net



August 5, 2011

Ms. Sherri Gust, RPA, Principal

COGSTONE RESOURCES MANAGEMENT

1518 W. Taft Avenue
Orange, CA 92865

Sent by FAX to: 714 974-8303
No. of Pages: 4

Re: Sacred Lands File Search and Native American Contacts list for the "Proposed Shea Baker Ranch Project No. 2186, a Residential Development," located in central Orange County, California

Dear Ms. Gust:

The Native American Heritage Commission (NAHC) conducted a Sacred Lands File search of the 'area of potential effect,' (APE) based on the USGS coordinates provided and found numerous **Native American cultural resources were not identified** in the USGS coordinates you specified. Also, please note; the NAHC Sacred Lands Inventory is not exhaustive.

The California Environmental Quality Act (CEQA – CA Public Resources Code §§ 21000-21177, amendments effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as 'a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ... objects of historic or aesthetic significance.' In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE)', and if so, to mitigate that effect. CA Government Code §65040.12(e) defines "environmental justice" provisions and is applicable to the environmental review processes.

Early consultation, even during Initial Study or First Phase surveys with Native American tribes in your area is the best way to avoid unanticipated discoveries once a project is underway. Local Native Americans may have knowledge of the religious and cultural significance of the historic properties of the proposed project for the area (e.g. APE). Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e). We urge consultation with those tribes and interested Native Americans on the list of Native American Contacts we attach to this letter in order to see if your proposed project might impact Native American cultural resources. Lead agencies should consider avoidance as defined in §15370 of the CEQA Guidelines when significant cultural resources as defined by the CEQA Guidelines §15064.5 (b)(c)(f) may be affected by a proposed project. If so, Section 15382 of the CEQA Guidelines defines a

significant impact on the environment as "substantial," and Section 2183.2 which requires documentation, data recovery of cultural resources.

Partnering with local tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA (42 U.S.C. 4321-43351) and Section 106 4(f), Section 110 (f)(k) of federal NHPA (16 U.S.C. 470 *et seq.*), 36 CFR Part 800.3 (f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C. 4371 *et seq.* and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation.

Also, California Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery', another important reason to have Native American Monitors on board with the project.

To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. An excellent way to reinforce the relationship between a project and local tribes is to employ Native American Monitors in all phases of proposed projects including the planning phases.

Confidentiality of "historic properties of religious and cultural significance" may also be protected under Section 304 of the NHPA or at the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C., 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APE and possibility threatened by proposed project activity.

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 652-6251.

Sincerely,

Dave Singleton

Attachment: Native American Contact List

California Native American Contact List
Orange County
August 5, 2011

Ti'At Society/Inter-Tribal Council of Pimu
Cindi M. Alvitre, Chairwoman-Manisar
3098 Mace Avenue, Aapt. D Gabrielino
Costa Mesa, , CA 92626
calvitre@yahoo.com
(714) 504-2468 Cell

Gabrielino Tongva Nation
Sam Dunlap, Chairperson
P.O. Box 86908
Los Angeles , CA 90086
samdunlap@earthlink.net

(909) 262-9351 - cell

Juaneno Band of Mission Indians Acjachemen Nation
David Belardes, Chairperson
32161 Avenida Los Amigos Juaneno
San Juan Capistrano CA 92675
(949) 493-4933 - home
chiefdavidbelardes@yahoo.
com
(949) 293-8522

Juaneno Band of Mission Indians Acjachemen Nation
Anthony Rivera, Chairman
31411-A La Matanza Street Juaneno
San Juan Capistrano CA 92675-2674
arivera@juaneno.com
(949) 488-3484
(949) 488-3294 - FAX
(530) 354-5876 - cell

Tongva Ancestral Territorial Tribal Nation
John Tommy Rosas, Tribal Admin.
Private Address
Gabrielino Tongva

tattnlaw@gmail.com
310-570-6567

Gabrielino Tongva Indians of California Tribal Council
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This list is current only as of the date of this document.

Distribution of this list does not relieve any person of the statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources for the proposed Shea Baker Ranch Project No. 2186; located in central Orange County, California for which a Sacred Lands File search and Native American Contacts list were requested.

California Native American Contact List
Orange County
August 5, 2011

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